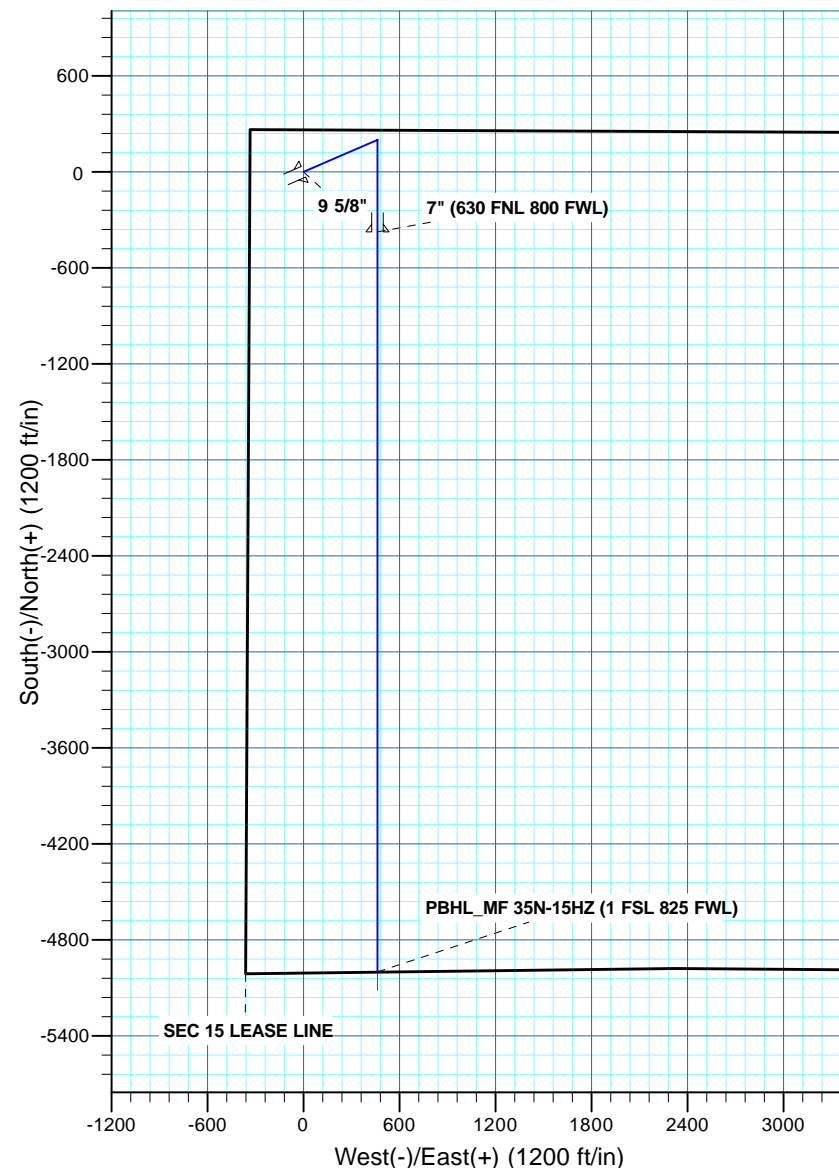
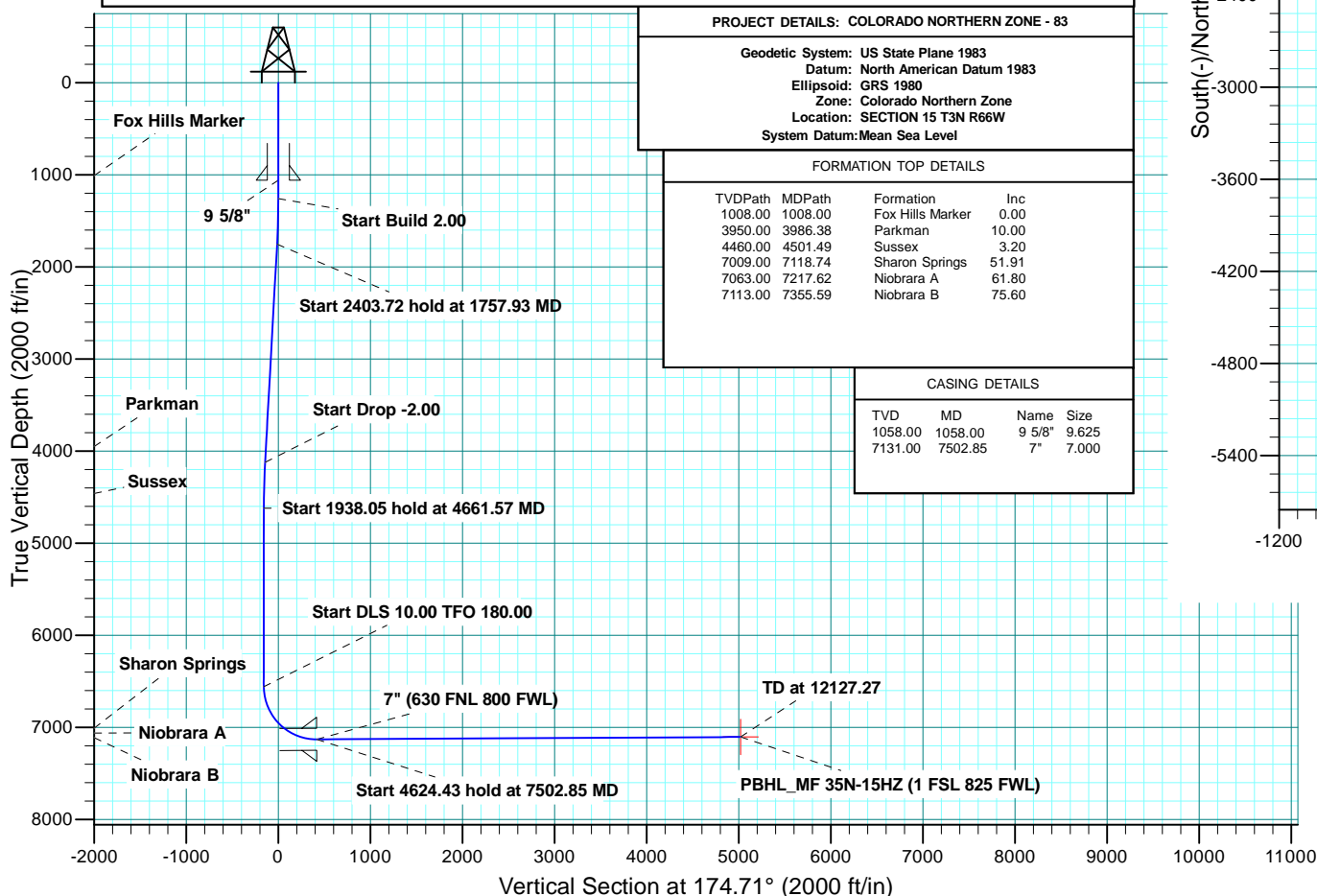


WELL DETAILS: MORNING FRESH 35N-15HZ										
GL 4851 & KB 17 @ 4868.00ft (ASSUMED)										
		+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
		0.00	0.00	1328023.61	3203325.79	40.2315310	-104.7717540			
SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1258.00	0.00	0.00	1258.00	0.00	0.00	0.00	0.00	0.00		Start Build 2.00
1757.93	10.00	66.64	1755.39	17.25	39.94	2.00	66.64	-13.50		Start 2403.72 hold at 1757.93 MD
4161.65	10.00	66.64	4122.61	182.75	423.07	0.00	0.00	-142.96		Start Drop -2.00
4661.57	0.00	0.00	4620.00	200.00	463.01	2.00	180.00	-156.46		Start 1938.05 hold at 4661.57 MD
6599.62	0.00	0.00	6558.05	200.00	463.01	0.00	0.00	-156.46		Start DLS 10.00 TFO 180.00
7502.85	90.32	180.00	7131.00	-376.18	463.01	10.00	180.00	417.27		Start 4624.43 hold at 7502.85 MD
12127.27	90.32	180.00	7105.00	-5000.53	463.01	0.00	0.00	5021.92	PBHL	TD at 12127.27
DESIGN TARGET DETAILS										
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape		
PBHL	7105.00	-5000.53	463.01	1323027.06	3203829.85	40.2178040	-104.7700960	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: SECTION 15 T3N R66W			
System Datum: Mean Sea Level			
FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	Inc
1008.00	1008.00	Fox Hills Marker	0.00
3950.00	3986.38	Parkman	10.00
4460.00	4501.49	Sussex	3.20
7009.00	7118.74	Sharon Springs	51.91
7063.00	7217.62	Niobrara A	61.80
7113.00	7355.59	Niobrara B	75.60
CASING DETAILS			
TVD	MD	Name	Size
1058.00	1058.00	9 5/8"	9.625
7131.00	7502.85	7"	7.000





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

MORNING FRESH 30-15HZ

MORNING FRESH 35N-15HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

13 November, 2013

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well MORNING FRESH 35N-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4851 & KB 17 @ 4868.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4851 & KB 17 @ 4868.00ft (ASSUMED)
Site:	MORNING FRESH 30-15HZ	North Reference:	True
Well:	MORNING FRESH 35N-15HZ	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	MORNING FRESH 30-15HZ, SECTION 15 T3N R66W			
Site Position:		Northing:	1,328,023.62 usft	Latitude: 40.2315310
From:	Lat/Long	Easting:	3,203,325.79 usft	Longitude: -104.7717540
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.47 °

Well	MORNING FRESH 35N-15HZ, 262 FNL 334 FWL			
Well Position	+N/-S	-0.01 ft	Northing:	1,328,023.61 usft
	+E/-W	0.00 ft	Easting:	3,203,325.79 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	4,851.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	11/12/2013	8.56	66.82	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	174.71

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	
1,258.00	0.00	0.00	1,258.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,757.93	10.00	66.64	1,755.39	17.25	39.94	2.00	2.00	0.00	66.64	
4,161.65	10.00	66.64	4,122.61	182.75	423.07	0.00	0.00	0.00	0.00	
4,661.57	0.00	0.00	4,620.00	200.00	463.01	2.00	-2.00	0.00	180.00	
6,599.62	0.00	0.00	6,558.05	200.00	463.01	0.00	0.00	0.00	0.00	
7,502.85	90.32	180.00	7,131.00	-376.18	463.01	10.00	10.00	19.93	180.00	
12,127.27	90.32	180.00	7,105.00	-5,000.53	463.01	0.00	0.00	0.00	0.00	PBHL_MF 35N-15HZ

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well MORNING FRESH 35N-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4851 & KB 17 @ 4868.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4851 & KB 17 @ 4868.00ft (ASSUMED)
Site:	MORNING FRESH 30-15HZ	North Reference:	True
Well:	MORNING FRESH 35N-15HZ	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
1,008.00	0.00	0.00	1,008.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Marker									
1,058.00	0.00	0.00	1,058.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
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
1,258.00	0.00	0.00	1,258.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,300.00	0.84	66.64	1,300.00	0.12	0.28	-0.10	2.00	2.00	0.00
1,400.00	2.84	66.64	1,399.94	1.40	3.23	-1.09	2.00	2.00	0.00
1,500.00	4.84	66.64	1,499.71	4.05	9.38	-3.17	2.00	2.00	0.00
1,600.00	6.84	66.64	1,599.19	8.09	18.72	-6.33	2.00	2.00	0.00
1,700.00	8.84	66.64	1,698.25	13.49	31.24	-10.56	2.00	2.00	0.00
1,757.93	10.00	66.64	1,755.39	17.25	39.94	-13.50	2.00	2.00	0.00
Start 2403.72 hold at 1757.93 MD									
1,800.00	10.00	66.64	1,796.83	20.15	46.65	-15.76	0.00	0.00	0.00
1,900.00	10.00	66.64	1,895.31	27.03	62.59	-21.15	0.00	0.00	0.00
2,000.00	10.00	66.64	1,993.79	33.92	78.53	-26.54	0.00	0.00	0.00
2,100.00	10.00	66.64	2,092.27	40.80	94.47	-31.92	0.00	0.00	0.00
2,200.00	10.00	66.64	2,190.75	47.69	110.40	-37.31	0.00	0.00	0.00
2,300.00	10.00	66.64	2,289.23	54.57	126.34	-42.69	0.00	0.00	0.00
2,400.00	10.00	66.64	2,387.71	61.46	142.28	-48.08	0.00	0.00	0.00
2,500.00	10.00	66.64	2,486.20	68.34	158.22	-53.47	0.00	0.00	0.00
2,600.00	10.00	66.64	2,584.68	75.23	174.16	-58.85	0.00	0.00	0.00
2,700.00	10.00	66.64	2,683.16	82.11	190.10	-64.24	0.00	0.00	0.00
2,800.00	10.00	66.64	2,781.64	89.00	206.04	-69.62	0.00	0.00	0.00
2,900.00	10.00	66.64	2,880.12	95.88	221.98	-75.01	0.00	0.00	0.00
3,000.00	10.00	66.64	2,978.60	102.77	237.92	-80.40	0.00	0.00	0.00
3,100.00	10.00	66.64	3,077.08	109.65	253.85	-85.78	0.00	0.00	0.00
3,200.00	10.00	66.64	3,175.56	116.54	269.79	-91.17	0.00	0.00	0.00
3,300.00	10.00	66.64	3,274.05	123.42	285.73	-96.55	0.00	0.00	0.00
3,400.00	10.00	66.64	3,372.53	130.31	301.67	-101.94	0.00	0.00	0.00
3,500.00	10.00	66.64	3,471.01	137.19	317.61	-107.33	0.00	0.00	0.00
3,600.00	10.00	66.64	3,569.49	144.08	333.55	-112.71	0.00	0.00	0.00
3,700.00	10.00	66.64	3,667.97	150.96	349.49	-118.10	0.00	0.00	0.00
3,800.00	10.00	66.64	3,766.45	157.85	365.43	-123.48	0.00	0.00	0.00
3,900.00	10.00	66.64	3,864.93	164.73	381.37	-128.87	0.00	0.00	0.00
3,986.38	10.00	66.64	3,950.00	170.68	395.13	-133.52	0.00	0.00	0.00
Parkman									
4,000.00	10.00	66.64	3,963.41	171.62	397.30	-134.26	0.00	0.00	0.00
4,100.00	10.00	66.64	4,061.90	178.50	413.24	-139.64	0.00	0.00	0.00
4,161.65	10.00	66.64	4,122.61	182.75	423.07	-142.96	0.00	0.00	0.00

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well MORNING FRESH 35N-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4851 & KB 17 @ 4868.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4851 & KB 17 @ 4868.00ft (ASSUMED)
Site:	MORNING FRESH 30-15HZ	North Reference:	True
Well:	MORNING FRESH 35N-15HZ	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)	
Start Drop -2.00										
4,200.00	9.23	66.64	4,160.42	185.29	428.95	-144.95	2.00	-2.00	0.00	
4,300.00	7.23	66.64	4,259.38	190.96	442.09	-149.39	2.00	-2.00	0.00	
4,400.00	5.23	66.64	4,358.79	195.27	452.06	-152.76	2.00	-2.00	0.00	
4,500.00	3.23	66.64	4,458.51	198.19	458.83	-155.05	2.00	-2.00	0.00	
4,501.49	3.20	66.64	4,460.00	198.23	458.91	-155.07	2.00	-2.00	0.00	
Sussex										
4,600.00	1.23	66.64	4,558.43	199.74	462.40	-156.25	2.00	-2.00	0.00	
4,661.57	0.00	0.00	4,620.00	200.00	463.01	-156.46	2.00	-2.00	0.00	
Start 1938.05 hold at 4661.57 MD										
4,700.00	0.00	0.00	4,658.43	200.00	463.01	-156.46	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,758.43	200.00	463.01	-156.46	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,858.43	200.00	463.01	-156.46	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,958.43	200.00	463.01	-156.46	0.00	0.00	0.00	
5,100.00	0.00	0.00	5,058.43	200.00	463.01	-156.46	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,158.43	200.00	463.01	-156.46	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,258.43	200.00	463.01	-156.46	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,358.43	200.00	463.01	-156.46	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,458.43	200.00	463.01	-156.46	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,558.43	200.00	463.01	-156.46	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,658.43	200.00	463.01	-156.46	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,758.43	200.00	463.01	-156.46	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,858.43	200.00	463.01	-156.46	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,958.43	200.00	463.01	-156.46	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,058.43	200.00	463.01	-156.46	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,158.43	200.00	463.01	-156.46	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,258.43	200.00	463.01	-156.46	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,358.43	200.00	463.01	-156.46	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,458.43	200.00	463.01	-156.46	0.00	0.00	0.00	
6,599.62	0.00	0.00	6,558.05	200.00	463.01	-156.46	0.00	0.00	0.00	
Start DLS 10.00 TFO 180.00										
6,600.00	0.04	180.00	6,558.43	200.00	463.01	-156.46	10.00	10.00	0.00	
6,700.00	10.04	180.00	6,657.91	191.23	463.01	-147.73	10.00	10.00	0.00	
6,800.00	20.04	180.00	6,754.37	165.32	463.01	-121.92	10.00	10.00	0.00	
6,900.00	30.04	180.00	6,844.85	123.05	463.01	-79.84	10.00	10.00	0.00	
7,000.00	40.04	180.00	6,926.63	65.71	463.01	-22.74	10.00	10.00	0.00	
7,100.00	50.04	180.00	6,997.20	-4.96	463.01	47.62	10.00	10.00	0.00	
7,118.74	51.91	180.00	7,009.00	-19.51	463.01	62.12	10.00	10.00	0.00	
Sharon Springs										
7,200.00	60.04	180.00	7,054.43	-86.80	463.01	129.12	10.00	10.00	0.00	
7,217.62	61.80	180.00	7,063.00	-102.21	463.01	144.46	10.00	10.00	0.00	
Niobrara A										
7,300.00	70.04	180.00	7,096.58	-177.35	463.01	219.28	10.00	10.00	0.00	
7,355.59	75.60	180.00	7,113.00	-230.44	463.01	272.14	10.00	10.00	0.00	
Niobrara B										
7,400.00	80.04	180.00	7,122.37	-273.83	463.01	315.36	10.00	10.00	0.00	
7,500.00	90.04	180.00	7,131.01	-373.33	463.01	414.43	10.00	10.00	0.00	
7,502.85	90.32	180.00	7,131.00	-376.18	463.01	417.27	9.99	9.99	0.00	
Start 4624.43 hold at 7502.85 MD - 7" (630 FNL 800 FWL)										
7,600.00	90.32	180.00	7,130.45	-473.33	463.01	514.00	0.00	0.00	0.00	
7,700.00	90.32	180.00	7,129.89	-573.33	463.01	613.58	0.00	0.00	0.00	
7,800.00	90.32	180.00	7,129.33	-673.33	463.01	713.15	0.00	0.00	0.00	
7,900.00	90.32	180.00	7,128.77	-773.33	463.01	812.72	0.00	0.00	0.00	

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well MORNING FRESH 35N-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4851 & KB 17 @ 4868.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4851 & KB 17 @ 4868.00ft (ASSUMED)
Site:	MORNING FRESH 30-15HZ	North Reference:	True
Well:	MORNING FRESH 35N-15HZ	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)
8,000.00	90.32	180.00	7,128.20	-873.32	463.01	912.29	0.00	0.00	0.00
8,100.00	90.32	180.00	7,127.64	-973.32	463.01	1,011.87	0.00	0.00	0.00
8,200.00	90.32	180.00	7,127.08	-1,073.32	463.01	1,111.44	0.00	0.00	0.00
8,300.00	90.32	180.00	7,126.52	-1,173.32	463.01	1,211.01	0.00	0.00	0.00
8,400.00	90.32	180.00	7,125.96	-1,273.32	463.01	1,310.58	0.00	0.00	0.00
8,500.00	90.32	180.00	7,125.39	-1,373.32	463.01	1,410.16	0.00	0.00	0.00
8,600.00	90.32	180.00	7,124.83	-1,473.32	463.01	1,509.73	0.00	0.00	0.00
8,700.00	90.32	180.00	7,124.27	-1,573.31	463.01	1,609.30	0.00	0.00	0.00
8,800.00	90.32	180.00	7,123.71	-1,673.31	463.01	1,708.87	0.00	0.00	0.00
8,900.00	90.32	180.00	7,123.14	-1,773.31	463.01	1,808.45	0.00	0.00	0.00
9,000.00	90.32	180.00	7,122.58	-1,873.31	463.01	1,908.02	0.00	0.00	0.00
9,100.00	90.32	180.00	7,122.02	-1,973.31	463.01	2,007.59	0.00	0.00	0.00
9,200.00	90.32	180.00	7,121.46	-2,073.31	463.01	2,107.16	0.00	0.00	0.00
9,300.00	90.32	180.00	7,120.90	-2,173.30	463.01	2,206.74	0.00	0.00	0.00
9,400.00	90.32	180.00	7,120.33	-2,273.30	463.01	2,306.31	0.00	0.00	0.00
9,500.00	90.32	180.00	7,119.77	-2,373.30	463.01	2,405.88	0.00	0.00	0.00
9,600.00	90.32	180.00	7,119.21	-2,473.30	463.01	2,505.45	0.00	0.00	0.00
9,700.00	90.32	180.00	7,118.65	-2,573.30	463.01	2,605.03	0.00	0.00	0.00
9,800.00	90.32	180.00	7,118.08	-2,673.30	463.01	2,704.60	0.00	0.00	0.00
9,900.00	90.32	180.00	7,117.52	-2,773.29	463.01	2,804.17	0.00	0.00	0.00
10,000.00	90.32	180.00	7,116.96	-2,873.29	463.01	2,903.74	0.00	0.00	0.00
10,100.00	90.32	180.00	7,116.40	-2,973.29	463.01	3,003.32	0.00	0.00	0.00
10,200.00	90.32	180.00	7,115.84	-3,073.29	463.01	3,102.89	0.00	0.00	0.00
10,300.00	90.32	180.00	7,115.27	-3,173.29	463.01	3,202.46	0.00	0.00	0.00
10,400.00	90.32	180.00	7,114.71	-3,273.29	463.01	3,302.03	0.00	0.00	0.00
10,500.00	90.32	180.00	7,114.15	-3,373.29	463.01	3,401.61	0.00	0.00	0.00
10,600.00	90.32	180.00	7,113.59	-3,473.28	463.01	3,501.18	0.00	0.00	0.00
10,700.00	90.32	180.00	7,113.02	-3,573.28	463.01	3,600.75	0.00	0.00	0.00
10,800.00	90.32	180.00	7,112.46	-3,673.28	463.01	3,700.32	0.00	0.00	0.00
10,900.00	90.32	180.00	7,111.90	-3,773.28	463.01	3,799.90	0.00	0.00	0.00
11,000.00	90.32	180.00	7,111.34	-3,873.28	463.01	3,899.47	0.00	0.00	0.00
11,100.00	90.32	180.00	7,110.78	-3,973.28	463.01	3,999.04	0.00	0.00	0.00
11,200.00	90.32	180.00	7,110.21	-4,073.27	463.01	4,098.61	0.00	0.00	0.00
11,300.00	90.32	180.00	7,109.65	-4,173.27	463.01	4,198.19	0.00	0.00	0.00
11,400.00	90.32	180.00	7,109.09	-4,273.27	463.01	4,297.76	0.00	0.00	0.00
11,500.00	90.32	180.00	7,108.53	-4,373.27	463.01	4,397.33	0.00	0.00	0.00
11,600.00	90.32	180.00	7,107.96	-4,473.27	463.01	4,496.90	0.00	0.00	0.00
11,700.00	90.32	180.00	7,107.40	-4,573.27	463.01	4,596.48	0.00	0.00	0.00
11,800.00	90.32	180.00	7,106.84	-4,673.26	463.01	4,696.05	0.00	0.00	0.00
11,900.00	90.32	180.00	7,106.28	-4,773.26	463.01	4,795.62	0.00	0.00	0.00
12,000.00	90.32	180.00	7,105.72	-4,873.26	463.01	4,895.19	0.00	0.00	0.00
12,100.00	90.32	180.00	7,105.15	-4,973.26	463.01	4,994.77	0.00	0.00	0.00
12,127.27	90.32	180.00	7,105.00	-5,000.53	463.01	5,021.92	0.00	0.00	0.00
TD at 12127.27 - PBHL_MF 35N-15HZ (1 FSL 825 FWL)									

Database:	Denver Sales Office	Local Co-ordinate Reference:	Well MORNING FRESH 35N-15HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4851 & KB 17 @ 4868.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4851 & KB 17 @ 4868.00ft (ASSUMED)
Site:	MORNING FRESH 30-15HZ	North Reference:	True
Well:	MORNING FRESH 35N-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 PRELIMINARY		

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_MF 35N-15HZ (1	0.00	0.00	7,105.00	-5,000.53	463.01	1,323,027.06	3,203,829.85	40.2178040	-104.7700960
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,058.00	1,058.00	9 5/8"	9.625	12.250	
7,502.85	7,131.00	7" (630 FNL 800 FWL)	7.000	7.500	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,008.00	1,008.00	Fox Hills Marker				
3,986.38	3,950.00	Parkman				
4,501.49	4,460.00	Sussex				
7,118.74	7,009.00	Sharon Springs				
7,217.62	7,063.00	Niobrara A				
7,355.59	7,113.00	Niobrara B				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,258.00	1,258.00	0.00	0.00	Start Build 2.00	
1,757.93	1,755.39	17.25	39.94	Start 2403.72 hold at 1757.93 MD	
4,161.65	4,122.61	182.75	423.07	Start Drop -2.00	
4,661.57	4,620.00	200.00	463.01	Start 1938.05 hold at 4661.57 MD	
6,599.62	6,558.05	200.00	463.01	Start DLS 10.00 TFO 180.00	
7,502.85	7,131.00	-376.18	463.01	Start 4624.43 hold at 7502.85 MD	
12,127.27	7,105.00	-5,000.53	463.01	TD at 12127.27	