



Project: COLORADO NORTHERN ZONE - 83  
Site: GOODIN 15-7HZ Pad  
Well: GOODIN 38N-A6HZ  
Wellbore: OH  
Design: PLAN #1 PRELIMINARY

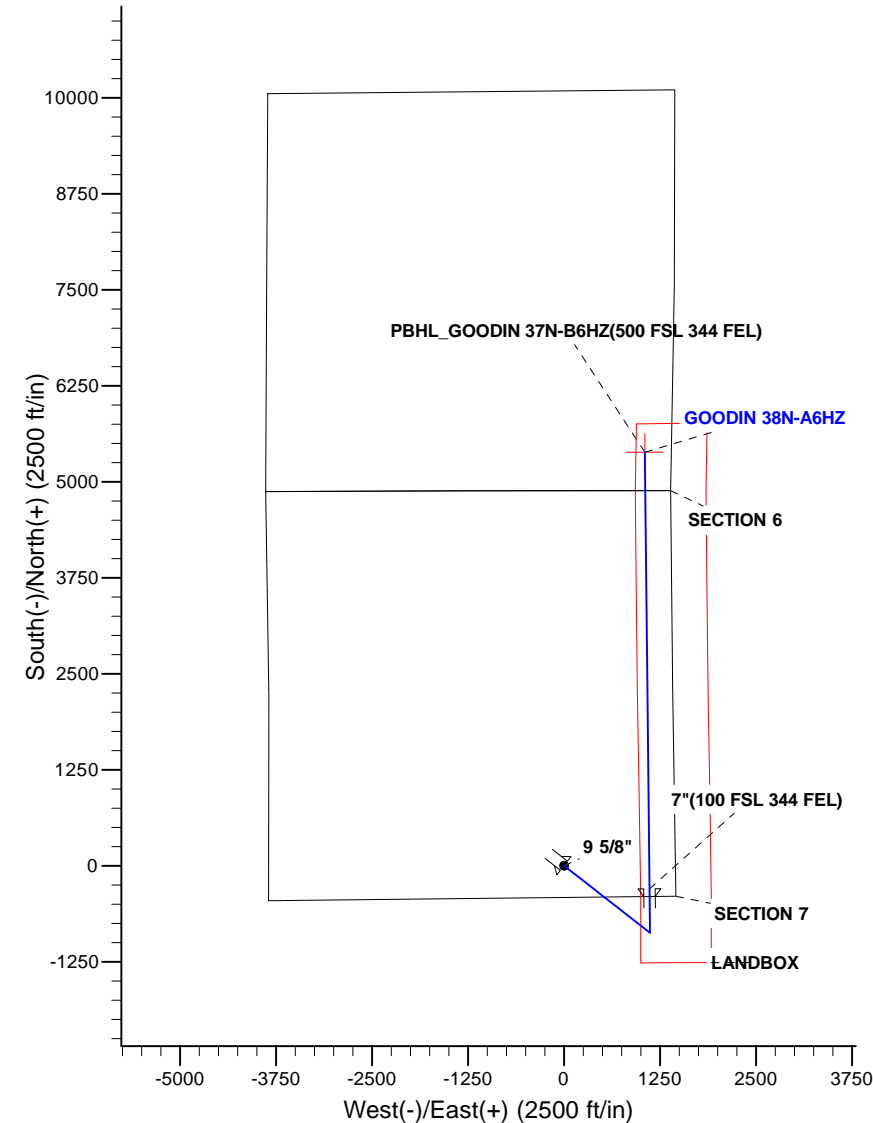
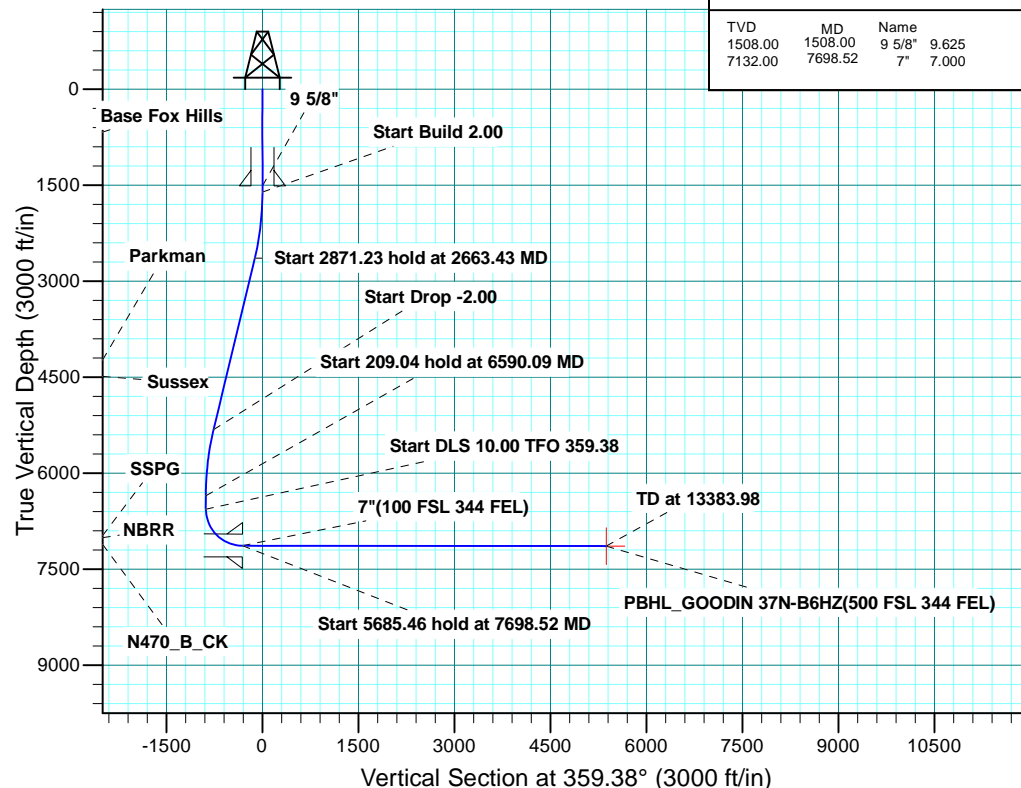


WELL DETAILS: GOODIN 38N-A6HZ									
GL 4980 & KB 17 @ 4997.00ft (ASSUMED)									
		+N-S 0.00	+E-W 0.00	Northing 1265650.91	Easting 3223293.96	Latitude 40.0598439		Longitude -104.7022480	
SECTION DETAILS									
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1608.00	0.00	0.00	1608.00	0.00	0.00	0.00	0.00	0.00	
2663.43	21.11	127.95	2639.72	-118.21	151.59	2.00	127.95	-119.84	
5534.66	21.11	127.95	5318.28	-754.09	966.99	0.00	0.00	-764.51	
6590.09	0.00	0.00	6350.00	-872.30	1118.58	2.00	180.00	-884.35	
6799.13	0.00	0.00	6559.04	-872.30	1118.58	0.00	0.00	-884.35	
7698.52	89.94	359.38	7132.00	-299.98	1112.41	10.00	359.38	-312.00	
13383.99	89.94	359.38	7138.00	5385.15	1051.11	0.00	0.00	5373.46	PBHL_GOODIN 37N-B6HZ(500 FSL 344 FEL)
DESIGN TARGET DETAILS									
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude		Longitude	Shape
PBHL	7138.00	5385.15	1051.11	1271045.29	3224296.57	40.0746270		-104.6984920	Point
- plan hits target center									

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 6 T1N R65W	
System Datum: Mean Sea Level	

FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	Inc
667.00	667.00	Base Fox Hills	0.00
4229.00	4367.03	Parkman	21.11
4487.00	4643.58	Sussex	21.11
6973.00	7261.74	SSPG	46.26
7007.00	7313.42	NBRR	51.43
7112.00	7547.31	N470_B_CK	74.82

CASING DETAILS			
TVD	MD	Name	
1508.00	1508.00	9 5/8"	9.625
7132.00	7698.52	7"	7.000



Plan: PLAN #1 PRELIMINARY (GOODIN 38N-A6HZ/OH)

Created By: R.Scott Date: 14:56, September 16 2014



**Scientific Drilling**

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**GOODIN 15-7HZ Pad**

**GOODIN 38N-A6HZ**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**08 September, 2014**

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GOODIN 38N-A6HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
<b>Site:</b>	GOODIN 15-7HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	GOODIN 38N-A6HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 PRELIMINARY		

<b>Project</b>	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

<b>Site</b>	GOODIN 15-7HZ Pad, SECTION 6 T1N R65W			
<b>Site Position:</b>		<b>Northing:</b>	1,265,650.80 usft	<b>Latitude:</b> 40.0598470
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,223,158.76 usft	<b>Longitude:</b> -104.7027310
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.52 °

<b>Well</b>	GOODIN 38N-A6HZ, 411 FSL 1450 FEL			
<b>Well Position</b>	<b>+N/-S</b>	-1.10 ft	<b>Northing:</b>	1,265,650.92 usft
	<b>+E/-W</b>	135.20 ft	<b>Easting:</b>	3,223,293.96 usft
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	0.00 ft
			<b>Ground Level:</b>	4,980.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2014	09/08/14	8.46	66.67	52,511

<b>Design</b>	PLAN #1 PRELIMINARY			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	359.38

<b>Plan Sections</b>										
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	
1,608.00	0.00	0.00	1,608.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,663.43	21.11	127.95	2,639.72	-118.21	151.59	2.00	2.00	0.00	127.95	
5,534.66	21.11	127.95	5,318.28	-754.09	966.99	0.00	0.00	0.00	0.00	
6,590.09	0.00	0.00	6,350.00	-872.30	1,118.58	2.00	-2.00	0.00	180.00	
6,799.13	0.00	0.00	6,559.04	-872.30	1,118.58	0.00	0.00	0.00	0.00	
7,698.52	89.94	359.38	7,132.00	-299.98	1,112.41	10.00	10.00	-0.07	359.38	
13,383.98	89.94	359.38	7,138.00	5,385.14	1,051.11	0.00	0.00	0.00	0.00	PBHL_GOODIN 37N-

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GOODIN 38N-A6HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
<b>Site:</b>	GOODIN 15-7HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	GOODIN 38N-A6HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
667.00	0.00	0.00	667.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Base Fox Hills</b>									
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
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
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
1,508.00	0.00	0.00	1,508.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9 5/8"</b>									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,608.00	0.00	0.00	1,608.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
1,700.00	1.84	127.95	1,699.98	-0.91	1.16	-0.92	2.00	2.00	0.00
1,800.00	3.84	127.95	1,799.86	-3.96	5.07	-4.01	2.00	2.00	0.00
1,900.00	5.84	127.95	1,899.49	-9.14	11.72	-9.27	2.00	2.00	0.00
2,000.00	7.84	127.95	1,998.78	-16.47	21.12	-16.69	2.00	2.00	0.00
2,100.00	9.84	127.95	2,097.59	-25.92	33.23	-26.27	2.00	2.00	0.00
2,200.00	11.84	127.95	2,195.80	-37.48	48.06	-38.00	2.00	2.00	0.00
2,300.00	13.84	127.95	2,293.29	-51.15	65.59	-51.85	2.00	2.00	0.00
2,400.00	15.84	127.95	2,389.95	-66.90	85.78	-67.82	2.00	2.00	0.00
2,500.00	17.84	127.95	2,485.66	-84.71	108.63	-85.88	2.00	2.00	0.00
2,600.00	19.84	127.95	2,580.29	-104.57	134.09	-106.01	2.00	2.00	0.00
2,663.43	21.11	127.95	2,639.72	-118.21	151.59	-119.84	2.00	2.00	0.00
<b>Start 2871.23 hold at 2663.43 MD</b>									
2,700.00	21.11	127.95	2,673.83	-126.31	161.97	-128.05	0.00	0.00	0.00
2,800.00	21.11	127.95	2,767.12	-148.46	190.37	-150.51	0.00	0.00	0.00
2,900.00	21.11	127.95	2,860.41	-170.60	218.77	-172.96	0.00	0.00	0.00
3,000.00	21.11	127.95	2,953.70	-192.75	247.17	-195.41	0.00	0.00	0.00
3,100.00	21.11	127.95	3,046.99	-214.90	275.57	-217.87	0.00	0.00	0.00
3,200.00	21.11	127.95	3,140.28	-237.04	303.97	-240.32	0.00	0.00	0.00
3,300.00	21.11	127.95	3,233.57	-259.19	332.37	-262.77	0.00	0.00	0.00
3,400.00	21.11	127.95	3,326.86	-281.34	360.77	-285.22	0.00	0.00	0.00
3,500.00	21.11	127.95	3,420.15	-303.48	389.17	-307.68	0.00	0.00	0.00
3,600.00	21.11	127.95	3,513.44	-325.63	417.56	-330.13	0.00	0.00	0.00
3,700.00	21.11	127.95	3,606.73	-347.78	445.96	-352.58	0.00	0.00	0.00
3,800.00	21.11	127.95	3,700.02	-369.92	474.36	-375.03	0.00	0.00	0.00
3,900.00	21.11	127.95	3,793.31	-392.07	502.76	-397.49	0.00	0.00	0.00
4,000.00	21.11	127.95	3,886.60	-414.21	531.16	-419.94	0.00	0.00	0.00
4,100.00	21.11	127.95	3,979.89	-436.36	559.56	-442.39	0.00	0.00	0.00
4,200.00	21.11	127.95	4,073.18	-458.51	587.96	-464.84	0.00	0.00	0.00
4,300.00	21.11	127.95	4,166.47	-480.65	616.36	-487.30	0.00	0.00	0.00
4,367.03	21.11	127.95	4,229.00	-495.50	635.39	-502.35	0.00	0.00	0.00
<b>Parkman</b>									

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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
<b>Site:</b>	GOODIN 15-7HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	GOODIN 38N-A6HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)
4,400.00	21.11	127.95	4,259.76	-502.80	644.76	-509.75	0.00	0.00	0.00
4,500.00	21.11	127.95	4,353.05	-524.95	673.16	-532.20	0.00	0.00	0.00
4,600.00	21.11	127.95	4,446.34	-547.09	701.56	-554.65	0.00	0.00	0.00
4,643.58	21.11	127.95	4,487.00	-556.75	713.94	-564.44	0.00	0.00	0.00
<b>Sussex</b>									
4,700.00	21.11	127.95	4,539.63	-569.24	729.96	-577.11	0.00	0.00	0.00
4,800.00	21.11	127.95	4,632.92	-591.39	758.36	-599.56	0.00	0.00	0.00
4,900.00	21.11	127.95	4,726.21	-613.53	786.76	-622.01	0.00	0.00	0.00
5,000.00	21.11	127.95	4,819.50	-635.68	815.15	-644.46	0.00	0.00	0.00
5,100.00	21.11	127.95	4,912.79	-657.83	843.55	-666.92	0.00	0.00	0.00
5,200.00	21.11	127.95	5,006.08	-679.97	871.95	-689.37	0.00	0.00	0.00
5,300.00	21.11	127.95	5,099.37	-702.12	900.35	-711.82	0.00	0.00	0.00
5,400.00	21.11	127.95	5,192.66	-724.27	928.75	-734.27	0.00	0.00	0.00
5,500.00	21.11	127.95	5,285.95	-746.41	957.15	-756.73	0.00	0.00	0.00
5,534.66	21.11	127.95	5,318.28	-754.09	966.99	-764.51	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,600.00	19.80	127.95	5,379.50	-768.13	985.00	-778.74	2.00	-2.00	0.00
5,700.00	17.80	127.95	5,474.16	-787.95	1,010.41	-798.84	2.00	-2.00	0.00
5,800.00	15.80	127.95	5,569.89	-805.72	1,033.21	-816.86	2.00	-2.00	0.00
5,900.00	13.80	127.95	5,666.56	-821.43	1,053.35	-832.78	2.00	-2.00	0.00
6,000.00	11.80	127.95	5,764.07	-835.06	1,070.83	-846.60	2.00	-2.00	0.00
6,100.00	9.80	127.95	5,862.30	-846.58	1,085.60	-858.28	2.00	-2.00	0.00
6,200.00	7.80	127.95	5,961.11	-855.99	1,097.67	-867.82	2.00	-2.00	0.00
6,300.00	5.80	127.95	6,060.41	-863.28	1,107.01	-875.20	2.00	-2.00	0.00
6,400.00	3.80	127.95	6,160.05	-868.42	1,113.61	-880.42	2.00	-2.00	0.00
6,500.00	1.80	127.95	6,259.93	-871.43	1,117.46	-883.47	2.00	-2.00	0.00
6,590.09	0.00	0.00	6,350.00	-872.30	1,118.58	-884.35	2.00	-2.00	0.00
<b>Start 209.04 hold at 6590.09 MD</b>									
6,600.00	0.00	0.00	6,359.91	-872.30	1,118.58	-884.35	0.00	0.00	0.00
6,700.00	0.00	0.00	6,459.91	-872.30	1,118.58	-884.35	0.00	0.00	0.00
6,799.13	0.00	0.00	6,559.04	-872.30	1,118.58	-884.35	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 359.38</b>									
6,800.00	0.09	359.38	6,559.91	-872.30	1,118.58	-884.35	10.00	10.00	0.00
6,900.00	10.09	359.38	6,659.39	-863.44	1,118.48	-875.50	10.00	10.00	0.00
7,000.00	20.09	359.38	6,755.82	-837.45	1,118.20	-849.50	10.00	10.00	0.00
7,100.00	30.09	359.38	6,846.27	-795.11	1,117.75	-807.16	10.00	10.00	0.00
7,200.00	40.09	359.38	6,928.00	-737.70	1,117.13	-749.75	10.00	10.00	0.00
7,261.74	46.26	359.38	6,973.00	-695.48	1,116.67	-707.52	10.00	10.00	0.00
<b>SSPG</b>									
7,300.00	50.09	359.38	6,998.51	-666.98	1,116.37	-679.02	10.00	10.00	0.00
7,313.42	51.43	359.38	7,007.00	-656.58	1,116.25	-668.62	10.00	10.00	0.00
<b>NBRR</b>									
7,400.00	60.09	359.38	7,055.67	-585.08	1,115.48	-597.12	10.00	10.00	0.00
7,500.00	70.09	359.38	7,097.74	-494.51	1,114.51	-506.54	10.00	10.00	0.00
7,547.31	74.82	359.38	7,112.00	-449.42	1,114.02	-461.45	10.00	10.00	0.00
<b>N470_B_CK</b>									
7,600.00	80.09	359.38	7,123.44	-398.01	1,113.47	-410.03	10.00	10.00	0.00
7,698.52	89.94	359.38	7,132.00	-299.99	1,112.41	-312.00	10.00	10.00	0.00
<b>Start 5685.46 hold at 7698.52 MD - 7"(100 FSL 344 FEL)</b>									
7,700.00	89.94	359.38	7,132.00	-298.51	1,112.39	-310.52	0.03	0.03	0.00
7,800.00	89.94	359.38	7,132.10	-198.51	1,111.31	-210.52	0.00	0.00	0.00
7,900.00	89.94	359.38	7,132.21	-98.52	1,110.24	-110.52	0.00	0.00	0.00
8,000.00	89.94	359.38	7,132.32	1.48	1,109.16	-10.53	0.00	0.00	0.00

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GOODIN 38N-A6HZ
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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
<b>Site:</b>	GOODIN 15-7HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	GOODIN 38N-A6HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)
8,100.00	89.94	359.38	7,132.42	101.47	1,108.08	89.47	0.00	0.00	0.00
8,200.00	89.94	359.38	7,132.53	201.47	1,107.00	189.47	0.00	0.00	0.00
8,300.00	89.94	359.38	7,132.63	301.46	1,105.92	289.47	0.00	0.00	0.00
8,400.00	89.94	359.38	7,132.74	401.45	1,104.85	389.47	0.00	0.00	0.00
8,500.00	89.94	359.38	7,132.84	501.45	1,103.77	489.47	0.00	0.00	0.00
8,600.00	89.94	359.38	7,132.95	601.44	1,102.69	589.47	0.00	0.00	0.00
8,700.00	89.94	359.38	7,133.05	701.44	1,101.61	689.47	0.00	0.00	0.00
8,800.00	89.94	359.38	7,133.16	801.43	1,100.53	789.47	0.00	0.00	0.00
8,900.00	89.94	359.38	7,133.27	901.42	1,099.45	889.47	0.00	0.00	0.00
9,000.00	89.94	359.38	7,133.37	1,001.42	1,098.38	989.47	0.00	0.00	0.00
9,100.00	89.94	359.38	7,133.48	1,101.41	1,097.30	1,089.47	0.00	0.00	0.00
9,200.00	89.94	359.38	7,133.58	1,201.41	1,096.22	1,189.47	0.00	0.00	0.00
9,300.00	89.94	359.38	7,133.69	1,301.40	1,095.14	1,289.47	0.00	0.00	0.00
9,400.00	89.94	359.38	7,133.79	1,401.39	1,094.06	1,389.47	0.00	0.00	0.00
9,500.00	89.94	359.38	7,133.90	1,501.39	1,092.99	1,489.47	0.00	0.00	0.00
9,600.00	89.94	359.38	7,134.01	1,601.38	1,091.91	1,589.47	0.00	0.00	0.00
9,700.00	89.94	359.38	7,134.11	1,701.38	1,090.83	1,689.47	0.00	0.00	0.00
9,800.00	89.94	359.38	7,134.22	1,801.37	1,089.75	1,789.47	0.00	0.00	0.00
9,900.00	89.94	359.38	7,134.32	1,901.37	1,088.67	1,889.47	0.00	0.00	0.00
10,000.00	89.94	359.38	7,134.43	2,001.36	1,087.59	1,989.47	0.00	0.00	0.00
10,100.00	89.94	359.38	7,134.53	2,101.35	1,086.52	2,089.47	0.00	0.00	0.00
10,200.00	89.94	359.38	7,134.64	2,201.35	1,085.44	2,189.47	0.00	0.00	0.00
10,300.00	89.94	359.38	7,134.74	2,301.34	1,084.36	2,289.47	0.00	0.00	0.00
10,400.00	89.94	359.38	7,134.85	2,401.34	1,083.28	2,389.47	0.00	0.00	0.00
10,500.00	89.94	359.38	7,134.96	2,501.33	1,082.20	2,489.47	0.00	0.00	0.00
10,600.00	89.94	359.38	7,135.06	2,601.32	1,081.12	2,589.47	0.00	0.00	0.00
10,700.00	89.94	359.38	7,135.17	2,701.32	1,080.05	2,689.47	0.00	0.00	0.00
10,800.00	89.94	359.38	7,135.27	2,801.31	1,078.97	2,789.47	0.00	0.00	0.00
10,900.00	89.94	359.38	7,135.38	2,901.31	1,077.89	2,889.47	0.00	0.00	0.00
11,000.00	89.94	359.38	7,135.48	3,001.30	1,076.81	2,989.47	0.00	0.00	0.00
11,100.00	89.94	359.38	7,135.59	3,101.30	1,075.73	3,089.47	0.00	0.00	0.00
11,200.00	89.94	359.38	7,135.69	3,201.29	1,074.66	3,189.47	0.00	0.00	0.00
11,300.00	89.94	359.38	7,135.80	3,301.28	1,073.58	3,289.47	0.00	0.00	0.00
11,400.00	89.94	359.38	7,135.91	3,401.28	1,072.50	3,389.47	0.00	0.00	0.00
11,500.00	89.94	359.38	7,136.01	3,501.27	1,071.42	3,489.47	0.00	0.00	0.00
11,600.00	89.94	359.38	7,136.12	3,601.27	1,070.34	3,589.47	0.00	0.00	0.00
11,700.00	89.94	359.38	7,136.22	3,701.26	1,069.26	3,689.47	0.00	0.00	0.00
11,800.00	89.94	359.38	7,136.33	3,801.25	1,068.19	3,789.47	0.00	0.00	0.00
11,900.00	89.94	359.38	7,136.43	3,901.25	1,067.11	3,889.47	0.00	0.00	0.00
12,000.00	89.94	359.38	7,136.54	4,001.24	1,066.03	3,989.47	0.00	0.00	0.00
12,100.00	89.94	359.38	7,136.64	4,101.24	1,064.95	4,089.47	0.00	0.00	0.00
12,200.00	89.94	359.38	7,136.75	4,201.23	1,063.87	4,189.47	0.00	0.00	0.00
12,300.00	89.94	359.38	7,136.86	4,301.22	1,062.80	4,289.47	0.00	0.00	0.00
12,400.00	89.94	359.38	7,136.96	4,401.22	1,061.72	4,389.47	0.00	0.00	0.00
12,500.00	89.94	359.38	7,137.07	4,501.21	1,060.64	4,489.47	0.00	0.00	0.00
12,600.00	89.94	359.38	7,137.17	4,601.21	1,059.56	4,589.47	0.00	0.00	0.00
12,700.00	89.94	359.38	7,137.28	4,701.20	1,058.48	4,689.47	0.00	0.00	0.00
12,800.00	89.94	359.38	7,137.38	4,801.20	1,057.40	4,789.47	0.00	0.00	0.00
12,900.00	89.94	359.38	7,137.49	4,901.19	1,056.33	4,889.47	0.00	0.00	0.00
13,000.00	89.94	359.38	7,137.59	5,001.18	1,055.25	4,989.47	0.00	0.00	0.00
13,100.00	89.94	359.38	7,137.70	5,101.18	1,054.17	5,089.47	0.00	0.00	0.00
13,200.00	89.94	359.38	7,137.81	5,201.17	1,053.09	5,189.47	0.00	0.00	0.00
13,300.00	89.94	359.38	7,137.91	5,301.17	1,052.01	5,289.47	0.00	0.00	0.00
13,383.98	89.94	359.38	7,138.00	5,385.14	1,051.11	5,373.45	0.00	0.00	0.00

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GOODIN 38N-A6HZ
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
<b>Site:</b>	GOODIN 15-7HZ Pad	<b>North Reference:</b>	True
<b>Well:</b>	GOODIN 38N-A6HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)
TD at 13383.98 - PBHL_GOODIN 37N-B6HZ(500 FSL 344 FEL)									

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_GOODIN 37N-B6	0.00	0.00	7,138.00	5,385.14	1,051.11	1,271,045.29	3,224,296.58	40.0746270	-104.6984920
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,508.00	1,508.00	9 5/8"	9.625	13.500	
7,698.52	7,132.00	7"(100 FSL 344 FEL)	7.000	8.750	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
667.00	667.00	Base Fox Hills			
4,367.03	4,229.00	Parkman			
4,643.58	4,487.00	Sussex			
7,261.74	6,973.00	SSPG			
7,313.42	7,007.00	NBRR			
7,547.31	7,112.00	N470_B_CK			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,608.00	1,608.00	0.00	0.00	Start Build 2.00
2,663.43	2,639.72	-118.21	151.59	Start 2871.23 hold at 2663.43 MD
5,534.66	5,318.28	-754.09	966.99	Start Drop -2.00
6,590.09	6,350.00	-872.30	1,118.58	Start 209.04 hold at 6590.09 MD
6,799.13	6,559.04	-872.30	1,118.58	Start DLS 10.00 TFO 359.38
7,698.52	7,132.00	-299.98	1,112.41	Start 5685.46 hold at 7698.52 MD
13,383.98	7,138.00	5,385.14	1,051.11	TD at 13383.98