



Project: COLORADO NORTHERN ZONE - 83

Site: GOODIN 15-7HZ Pad

Well: GOODIN 16N-A6HZ

Wellbore: OH

Design: PLAN #1 PRELIMINARY

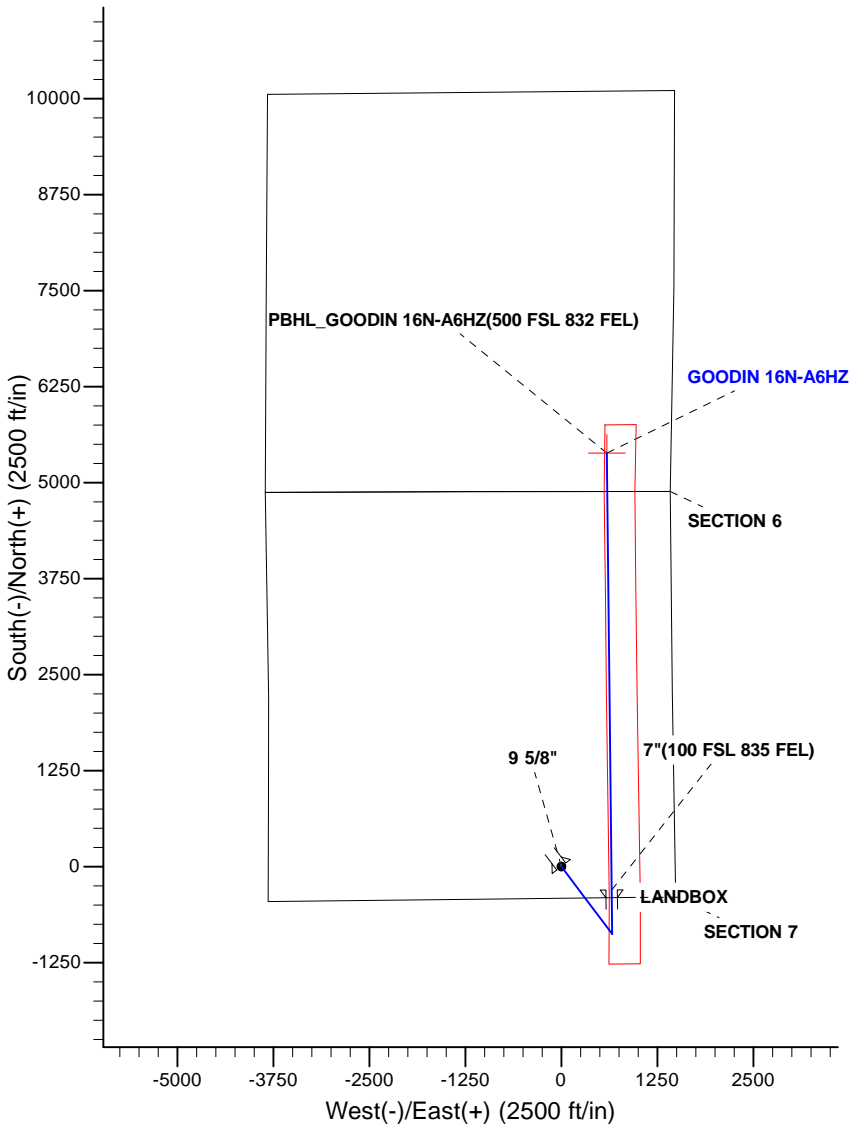
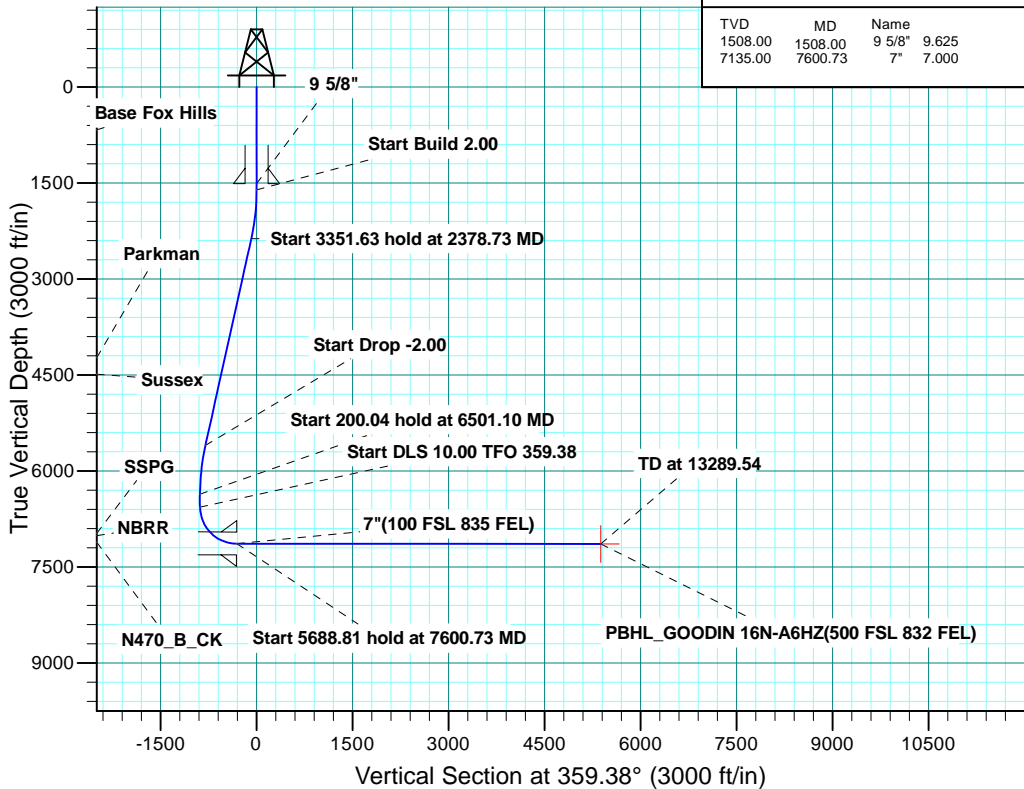


WELL DETAILS: GOODIN 16N-A6HZ									
GL 4980 & KB 17 @ 4997.00ft (ASSUMED)									
		+N-S	+E-W	Northing	Easting	Latitude	Longitude		
		0.00	0.00	1265651.01	3223263.73	40.0598450	-104.7023560		
SECTION DETAILS									
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1608.00	0.00	0.00	1608.00	0.00	0.00	0.00	0.00	0.00	
2378.73	15.41	143.04	2369.47	-82.35	61.96	2.00	143.04	-83.02	
5730.36	15.41	143.04	5600.53	-794.25	597.54	0.00	0.00	-800.67	
6501.10	0.00	0.00	6362.00	-876.60	659.50	2.00	180.00	-883.69	
6701.14	0.00	0.00	6562.04	-876.60	659.50	0.00	0.00	-883.69	
7600.73	89.96	359.38	7135.00	-304.08	653.27	10.00	359.38	-311.13	
13289.55	89.96	359.38	7139.00	5384.40	591.41	0.00	0.00	5377.69	PBHL_GOODIN 16N-A6HZ(500 FSL 832 FEL)
DESIGN TARGET DETAILS									
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape	
PBHL 7139.00		5384.40	591.41	1271040.50	3223806.68	40.0746260	-104.7002427	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	4307.65	Parkman	15.41
4487.00	4575.28	Sussex	15.41
6975.00	7162.30	SSPG	46.12
7009.00	7213.83	NBRR	51.27
7113.00	7441.85	N470_B_CK	74.07

CASING DETAILS			
TVD	MD	Name	
1508.00	1508.00	9 5/8"	9.625
7135.00	7600.73	7"	7.000



Plan: PLAN #1 PRELIMINARY (GOODIN 16N-A6HZ/OH)

Created By: R.Scott Date: 14:30, September 16 2014



**Scientific Drilling**

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**GOODIN 15-7HZ Pad**

**GOODIN 16N-A6HZ**

**OH**

**Plan: PLAN #1 PRELIMINARY**

## **Standard Planning Report**

**16 September, 2014**

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well GOODIN 16N-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 16N-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 16N-A6HZ, 411 FSL 1480 FEL			
<b>Well Position</b>	<b>+N/-S</b>	-0.74 ft	<b>Northing:</b>	1,265,651.01 usft
	<b>+E/-W</b>	104.97 ft	<b>Easting:</b>	3,223,263.73 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	9/8/2014	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 (°/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	
1,608.00	0.00	0.00	1,608.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,378.73	15.41	143.04	2,369.47	-82.35	61.96	2.00	2.00	0.00	143.04	
5,730.36	15.41	143.04	5,600.53	-794.25	597.54	0.00	0.00	0.00	0.00	
6,501.10	0.00	0.00	6,362.00	-876.60	659.50	2.00	-2.00	0.00	180.00	
6,701.14	0.00	0.00	6,562.04	-876.60	659.50	0.00	0.00	0.00	0.00	
7,600.73	89.96	359.38	7,135.00	-304.08	653.27	10.00	10.00	-0.07	359.38	
13,289.55	89.96	359.38	7,139.00	5,384.40	591.41	0.00	0.00	0.00	0.00	PBHL_GOODIN 16N-

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well GOODIN 16N-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 16N-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 (°/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
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	143.04	1,699.98	-1.18	0.89	-1.19	2.00	2.00	0.00
1,800.00	3.84	143.04	1,799.86	-5.14	3.87	-5.18	2.00	2.00	0.00
1,900.00	5.84	143.04	1,899.49	-11.88	8.94	-11.98	2.00	2.00	0.00
2,000.00	7.84	143.04	1,998.78	-21.40	16.10	-21.57	2.00	2.00	0.00
2,100.00	9.84	143.04	2,097.59	-33.68	25.34	-33.95	2.00	2.00	0.00
2,200.00	11.84	143.04	2,195.80	-48.71	36.64	-49.10	2.00	2.00	0.00
2,300.00	13.84	143.04	2,293.29	-66.46	50.00	-67.00	2.00	2.00	0.00
2,378.73	15.41	143.04	2,369.47	-82.35	61.96	-83.02	2.00	2.00	0.00
<b>Start 3351.63 hold at 2378.73 MD</b>									
2,400.00	15.41	143.04	2,389.97	-86.87	65.35	-87.57	0.00	0.00	0.00
2,500.00	15.41	143.04	2,486.37	-108.11	81.33	-108.98	0.00	0.00	0.00
2,600.00	15.41	143.04	2,582.78	-129.35	97.31	-130.39	0.00	0.00	0.00
2,700.00	15.41	143.04	2,679.18	-150.59	113.29	-151.81	0.00	0.00	0.00
2,800.00	15.41	143.04	2,775.58	-171.83	129.27	-173.22	0.00	0.00	0.00
2,900.00	15.41	143.04	2,871.98	-193.07	145.25	-194.63	0.00	0.00	0.00
3,000.00	15.41	143.04	2,968.39	-214.31	161.23	-216.04	0.00	0.00	0.00
3,100.00	15.41	143.04	3,064.79	-235.55	177.21	-237.45	0.00	0.00	0.00
3,200.00	15.41	143.04	3,161.19	-256.79	193.19	-258.87	0.00	0.00	0.00
3,300.00	15.41	143.04	3,257.60	-278.03	209.17	-280.28	0.00	0.00	0.00
3,400.00	15.41	143.04	3,354.00	-299.27	225.15	-301.69	0.00	0.00	0.00
3,500.00	15.41	143.04	3,450.40	-320.51	241.13	-323.10	0.00	0.00	0.00
3,600.00	15.41	143.04	3,546.80	-341.75	257.11	-344.51	0.00	0.00	0.00
3,700.00	15.41	143.04	3,643.21	-362.99	273.09	-365.93	0.00	0.00	0.00
3,800.00	15.41	143.04	3,739.61	-384.23	289.07	-387.34	0.00	0.00	0.00
3,900.00	15.41	143.04	3,836.01	-405.47	305.05	-408.75	0.00	0.00	0.00
4,000.00	15.41	143.04	3,932.41	-426.71	321.03	-430.16	0.00	0.00	0.00
4,100.00	15.41	143.04	4,028.82	-447.95	337.01	-451.57	0.00	0.00	0.00
4,200.00	15.41	143.04	4,125.22	-469.19	352.99	-472.99	0.00	0.00	0.00
4,300.00	15.41	143.04	4,221.62	-490.44	368.97	-494.40	0.00	0.00	0.00
4,307.65	15.41	143.04	4,229.00	-492.06	370.20	-496.04	0.00	0.00	0.00
<b>Parkman</b>									

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well GOODIN 16N-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 16N-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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,400.00	15.41	143.04	4,318.03	-511.68	384.95	-515.81	0.00	0.00	0.00
4,500.00	15.41	143.04	4,414.43	-532.92	400.93	-537.22	0.00	0.00	0.00
4,575.28	15.41	143.04	4,487.00	-548.91	412.96	-553.34	0.00	0.00	0.00
<b>Sussex</b>									
4,600.00	15.41	143.04	4,510.83	-554.16	416.91	-558.64	0.00	0.00	0.00
4,700.00	15.41	143.04	4,607.23	-575.40	432.89	-580.05	0.00	0.00	0.00
4,800.00	15.41	143.04	4,703.64	-596.64	448.87	-601.46	0.00	0.00	0.00
4,900.00	15.41	143.04	4,800.04	-617.88	464.85	-622.87	0.00	0.00	0.00
5,000.00	15.41	143.04	4,896.44	-639.12	480.83	-644.28	0.00	0.00	0.00
5,100.00	15.41	143.04	4,992.84	-660.36	496.81	-665.70	0.00	0.00	0.00
5,200.00	15.41	143.04	5,089.25	-681.60	512.79	-687.11	0.00	0.00	0.00
5,300.00	15.41	143.04	5,185.65	-702.84	528.77	-708.52	0.00	0.00	0.00
5,400.00	15.41	143.04	5,282.05	-724.08	544.75	-729.93	0.00	0.00	0.00
5,500.00	15.41	143.04	5,378.46	-745.32	560.73	-751.34	0.00	0.00	0.00
5,600.00	15.41	143.04	5,474.86	-766.56	576.71	-772.76	0.00	0.00	0.00
5,700.00	15.41	143.04	5,571.26	-787.80	592.69	-794.17	0.00	0.00	0.00
5,730.36	15.41	143.04	5,600.53	-794.25	597.54	-800.67	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,800.00	14.02	143.04	5,667.88	-808.39	608.18	-814.92	2.00	-2.00	0.00
5,900.00	12.02	143.04	5,765.31	-826.39	621.73	-833.07	2.00	-2.00	0.00
6,000.00	10.02	143.04	5,863.46	-841.67	633.22	-848.47	2.00	-2.00	0.00
6,100.00	8.02	143.04	5,962.21	-854.20	642.65	-861.10	2.00	-2.00	0.00
6,200.00	6.02	143.04	6,061.46	-863.97	650.00	-870.95	2.00	-2.00	0.00
6,300.00	4.02	143.04	6,161.07	-870.96	655.26	-878.00	2.00	-2.00	0.00
6,400.00	2.02	143.04	6,260.93	-875.17	658.43	-882.25	2.00	-2.00	0.00
6,500.00	0.02	143.04	6,360.90	-876.60	659.50	-883.68	2.00	-2.00	0.00
6,501.10	0.00	0.00	6,362.00	-876.60	659.50	-883.69	2.00	-2.00	0.00
<b>Start 200.04 hold at 6501.10 MD</b>									
6,600.00	0.00	0.00	6,460.90	-876.60	659.50	-883.69	0.00	0.00	0.00
6,700.00	0.00	0.00	6,560.90	-876.60	659.50	-883.69	0.00	0.00	0.00
6,701.14	0.00	0.00	6,562.04	-876.60	659.50	-883.69	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 359.38</b>									
6,800.00	9.89	359.38	6,660.41	-868.09	659.41	-875.18	10.00	10.00	0.00
6,900.00	19.89	359.38	6,756.94	-842.44	659.13	-849.52	10.00	10.00	0.00
7,000.00	29.89	359.38	6,847.54	-800.41	658.67	-807.49	10.00	10.00	0.00
7,100.00	39.89	359.38	6,929.46	-743.29	658.05	-750.37	10.00	10.00	0.00
7,162.30	46.12	359.38	6,975.00	-700.82	657.59	-707.90	10.00	10.00	0.00
<b>SSPG</b>									
7,200.00	49.89	359.38	7,000.22	-672.81	657.28	-679.89	10.00	10.00	0.00
7,213.83	51.27	359.38	7,009.00	-662.13	657.17	-669.21	10.00	10.00	0.00
<b>NBRR</b>									
7,300.00	59.89	359.38	7,057.67	-591.12	656.40	-598.19	10.00	10.00	0.00
7,400.00	69.89	359.38	7,100.06	-500.69	655.41	-507.76	10.00	10.00	0.00
7,441.85	74.07	359.38	7,113.00	-460.90	654.98	-467.96	10.00	10.00	0.00
<b>N470_B_CK</b>									
7,500.00	79.89	359.38	7,126.10	-404.28	654.36	-411.34	10.00	10.00	0.00
7,600.00	89.89	359.38	7,135.00	-304.81	653.28	-311.86	10.00	10.00	0.00
7,600.73	89.96	359.38	7,135.00	-304.08	653.27	-311.13	10.00	10.00	0.00
<b>Start 5688.81 hold at 7600.73 MD - 7"(100 FSL 835 FEL)</b>									
7,700.00	89.96	359.38	7,135.07	-204.82	652.19	-211.86	0.00	0.00	0.00
7,800.00	89.96	359.38	7,135.14	-104.82	651.11	-111.86	0.00	0.00	0.00
7,900.00	89.96	359.38	7,135.21	-4.83	650.02	-11.86	0.00	0.00	0.00
8,000.00	89.96	359.38	7,135.28	95.16	648.93	88.14	0.00	0.00	0.00

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well GOODIN 16N-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 16N-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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,100.00	89.96	359.38	7,135.35	195.16	647.84	188.14	0.00	0.00	0.00
8,200.00	89.96	359.38	7,135.42	295.15	646.76	288.14	0.00	0.00	0.00
8,300.00	89.96	359.38	7,135.49	395.15	645.67	388.14	0.00	0.00	0.00
8,400.00	89.96	359.38	7,135.56	495.14	644.58	488.14	0.00	0.00	0.00
8,500.00	89.96	359.38	7,135.63	595.14	643.49	588.14	0.00	0.00	0.00
8,600.00	89.96	359.38	7,135.70	695.13	642.41	688.14	0.00	0.00	0.00
8,700.00	89.96	359.38	7,135.77	795.12	641.32	788.14	0.00	0.00	0.00
8,800.00	89.96	359.38	7,135.84	895.12	640.23	888.14	0.00	0.00	0.00
8,900.00	89.96	359.38	7,135.91	995.11	639.14	988.14	0.00	0.00	0.00
9,000.00	89.96	359.38	7,135.98	1,095.11	638.06	1,088.14	0.00	0.00	0.00
9,100.00	89.96	359.38	7,136.05	1,195.10	636.97	1,188.14	0.00	0.00	0.00
9,200.00	89.96	359.38	7,136.12	1,295.09	635.88	1,288.14	0.00	0.00	0.00
9,300.00	89.96	359.38	7,136.19	1,395.09	634.79	1,388.14	0.00	0.00	0.00
9,400.00	89.96	359.38	7,136.26	1,495.08	633.71	1,488.14	0.00	0.00	0.00
9,500.00	89.96	359.38	7,136.33	1,595.08	632.62	1,588.14	0.00	0.00	0.00
9,600.00	89.96	359.38	7,136.40	1,695.07	631.53	1,688.14	0.00	0.00	0.00
9,700.00	89.96	359.38	7,136.47	1,795.06	630.44	1,788.14	0.00	0.00	0.00
9,800.00	89.96	359.38	7,136.55	1,895.06	629.36	1,888.14	0.00	0.00	0.00
9,900.00	89.96	359.38	7,136.62	1,995.05	628.27	1,988.14	0.00	0.00	0.00
10,000.00	89.96	359.38	7,136.69	2,095.05	627.18	2,088.14	0.00	0.00	0.00
10,100.00	89.96	359.38	7,136.76	2,195.04	626.10	2,188.14	0.00	0.00	0.00
10,200.00	89.96	359.38	7,136.83	2,295.03	625.01	2,288.14	0.00	0.00	0.00
10,300.00	89.96	359.38	7,136.90	2,395.03	623.92	2,388.14	0.00	0.00	0.00
10,400.00	89.96	359.38	7,136.97	2,495.02	622.83	2,488.14	0.00	0.00	0.00
10,500.00	89.96	359.38	7,137.04	2,595.02	621.75	2,588.14	0.00	0.00	0.00
10,600.00	89.96	359.38	7,137.11	2,695.01	620.66	2,688.14	0.00	0.00	0.00
10,700.00	89.96	359.38	7,137.18	2,795.00	619.57	2,788.14	0.00	0.00	0.00
10,800.00	89.96	359.38	7,137.25	2,895.00	618.48	2,888.14	0.00	0.00	0.00
10,900.00	89.96	359.38	7,137.32	2,994.99	617.40	2,988.14	0.00	0.00	0.00
11,000.00	89.96	359.38	7,137.39	3,094.99	616.31	3,088.14	0.00	0.00	0.00
11,100.00	89.96	359.38	7,137.46	3,194.98	615.22	3,188.14	0.00	0.00	0.00
11,200.00	89.96	359.38	7,137.53	3,294.98	614.13	3,288.14	0.00	0.00	0.00
11,300.00	89.96	359.38	7,137.60	3,394.97	613.05	3,388.14	0.00	0.00	0.00
11,400.00	89.96	359.38	7,137.67	3,494.96	611.96	3,488.14	0.00	0.00	0.00
11,500.00	89.96	359.38	7,137.74	3,594.96	610.87	3,588.14	0.00	0.00	0.00
11,600.00	89.96	359.38	7,137.81	3,694.95	609.78	3,688.14	0.00	0.00	0.00
11,700.00	89.96	359.38	7,137.88	3,794.95	608.70	3,788.14	0.00	0.00	0.00
11,800.00	89.96	359.38	7,137.95	3,894.94	607.61	3,888.14	0.00	0.00	0.00
11,900.00	89.96	359.38	7,138.02	3,994.93	606.52	3,988.14	0.00	0.00	0.00
12,000.00	89.96	359.38	7,138.09	4,094.93	605.43	4,088.14	0.00	0.00	0.00
12,100.00	89.96	359.38	7,138.16	4,194.92	604.35	4,188.14	0.00	0.00	0.00
12,200.00	89.96	359.38	7,138.23	4,294.92	603.26	4,288.14	0.00	0.00	0.00
12,300.00	89.96	359.38	7,138.30	4,394.91	602.17	4,388.14	0.00	0.00	0.00
12,400.00	89.96	359.38	7,138.37	4,494.90	601.08	4,488.14	0.00	0.00	0.00
12,500.00	89.96	359.38	7,138.44	4,594.90	600.00	4,588.14	0.00	0.00	0.00
12,600.00	89.96	359.38	7,138.52	4,694.89	598.91	4,688.14	0.00	0.00	0.00
12,700.00	89.96	359.38	7,138.59	4,794.89	597.82	4,788.14	0.00	0.00	0.00
12,800.00	89.96	359.38	7,138.66	4,894.88	596.73	4,888.14	0.00	0.00	0.00
12,900.00	89.96	359.38	7,138.73	4,994.87	595.65	4,988.14	0.00	0.00	0.00
13,000.00	89.96	359.38	7,138.80	5,094.87	594.56	5,088.14	0.00	0.00	0.00
13,100.00	89.96	359.38	7,138.87	5,194.86	593.47	5,188.14	0.00	0.00	0.00
13,200.00	89.96	359.38	7,138.94	5,294.86	592.38	5,288.14	0.00	0.00	0.00
13,289.54	89.96	359.38	7,139.00	5,384.39	591.41	5,377.68	0.00	0.00	0.00

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well GOODIN 16N-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 16N-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 (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
<b>TD at 13289.54</b>									
13,289.55	89.96	359.38	7,139.00	5,384.40	591.41	5,377.69	0.00	0.00	0.00
<b>PBHL_GOODIN 16N-A6HZ(500 FSL 832 FEL)</b>									

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 16N-A6	0.00	0.00	7,139.00	5,384.40	591.41	1,271,040.50	3,223,806.68	40.0746260	-104.7002426
- 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	
7,600.73	7,135.00	7"(100 FSL 835 FEL)	7.000	8.750	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
667.00	667.00	Base Fox Hills				
4,307.65	4,229.00	Parkman				
4,575.28	4,487.00	Sussex				
7,162.30	6,975.00	SSPG				
7,213.83	7,009.00	NBRR				
7,441.85	7,113.00	N470_B_CK				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,608.00	1,608.00	0.00	0.00	Start Build 2.00	
2,378.73	2,369.47	-82.35	61.96	Start 3351.63 hold at 2378.73 MD	
5,730.36	5,600.53	-794.25	597.54	Start Drop -2.00	
6,501.10	6,362.00	-876.60	659.50	Start 200.04 hold at 6501.10 MD	
6,701.14	6,562.04	-876.60	659.50	Start DLS 10.00 TFO 359.38	
7,600.73	7,135.00	-304.08	653.27	Start 5688.81 hold at 7600.73 MD	
13,289.54	7,139.00	5,384.39	591.41	TD at 13289.54	