



Project: COLORADO NORTHERN ZONE - 83

Site: GOODIN 15-7HZ Pad

Well: GOODIN 15N-A6HZ

Wellbore: OH

Design: PLAN #1 PRELIMINARY

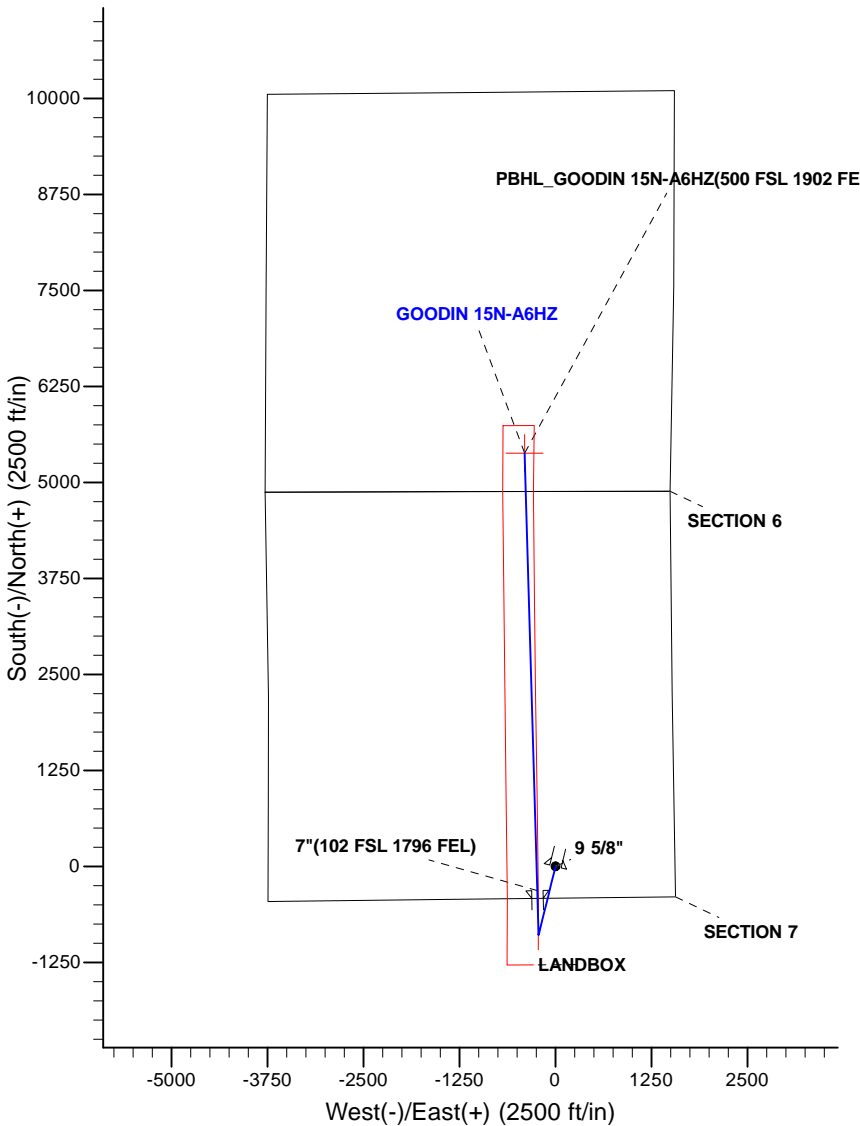
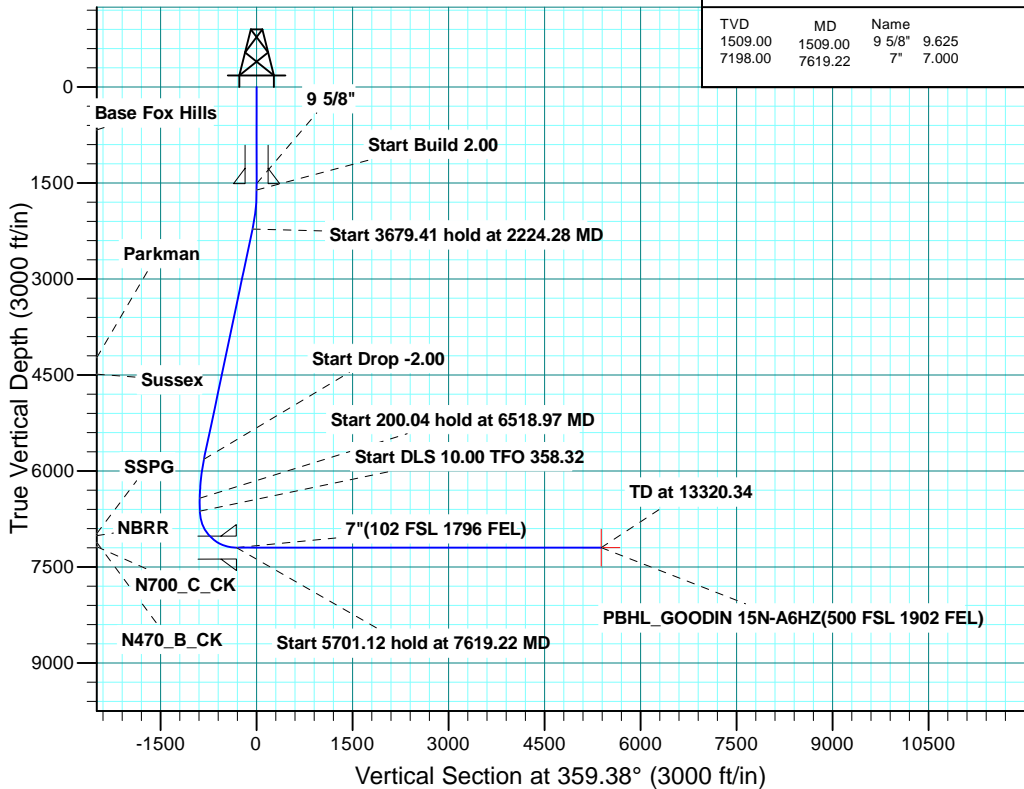


WELL DETAILS: GOODIN 15N-A6HZ								
GL 4981 & KB 17 @ 4998.00ft (ASSUMED)								
+N/-S		+E/-W		Northing	Easting	Latitude	Longitude	
0.00		0.00		1265651.05	3223188.71	40.0598469	-104.7026240	
SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1609.00	0.00	0.00	1609.00	0.00	0.00	0.00	0.00	0.00
2224.28	12.31	193.90	2219.56	-63.89	-15.81	2.00	193.90	-63.72
5903.69	12.31	193.90	5814.44	-825.11	-204.19	0.00	0.00	-822.85
6518.97	0.00	0.00	6425.00	-889.00	-220.00	2.00	180.00	-886.57
6719.01	0.00	0.00	6625.04	-889.00	-220.00	0.00	0.00	-886.57
7619.22	90.02	358.32	7198.00	-316.09	-236.80	10.00	358.32	-313.51
13320.34	90.02	358.32	7196.00	5382.58	-403.95	0.00	0.00	5386.64
PBHL GOODIN 15N-A6HZ(500 FSL 1902 FEL)								
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	7196.00	5382.58	-403.95	1271029.78	3222736.37	40.0746230	-104.7040675	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
668.00	668.00	Base Fox Hills	0.00
4230.00	4282.00	Parkman	12.31
4488.00	4546.06	Sussex	12.31
6977.00	7098.01	SSPG	37.90
7011.00	7142.49	NBRR	42.35
7114.00	7304.84	N470_B_CK	58.58
7181.00	7479.10	N700_C_CK	76.01

CASING DETAILS			
TVD	MD	Name	
1509.00	1509.00	9 5/8"	9.625
7198.00	7619.22	7"	7.000



Plan: PLAN #1 PRELIMINARY (GOODIN 15N-A6HZ/OH)

Created By: R.Scott Date: 14:11, September 16 2014



Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

GOODIN 15-7HZ Pad

GOODIN 15N-A6HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

16 September, 2014

Database:	Denver Sales	Local Co-ordinate Reference:	Well GOODIN 15N-A6HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4981 & KB 17 @ 4998.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4981 & KB 17 @ 4998.00ft (ASSUMED)
Site:	GOODIN 15-7HZ Pad	North Reference:	True
Well:	GOODIN 15N-A6HZ	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	GOODIN 15-7HZ Pad, SECTION 6 T1N R65W			
Site Position:		Northing:	1,265,650.80 usft	Latitude: 40.0598470
From:	Lat/Long	Easting:	3,223,158.76 usft	Longitude: -104.7027310
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.52 °

Well	GOODIN 15N-A6HZ, 413 FSL 1555 FEL			
Well Position	+N/-S	-0.02 ft	Northing:	1,265,651.05 usft
	+E/-W	29.95 ft	Easting:	3,223,188.71 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	4,981.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	9/8/2014	8.46	66.67	52,511

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	359.38

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	
1,609.00	0.00	0.00	1,609.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,224.28	12.31	193.90	2,219.56	-63.89	-15.81	2.00	2.00	0.00	193.90	
5,903.69	12.31	193.90	5,814.44	-825.11	-204.19	0.00	0.00	0.00	0.00	
6,518.97	0.00	0.00	6,425.00	-889.00	-220.00	2.00	-2.00	0.00	180.00	
6,719.01	0.00	0.00	6,625.04	-889.00	-220.00	0.00	0.00	0.00	0.00	
7,619.22	90.02	358.32	7,198.00	-316.09	-236.80	10.00	10.00	-0.19	358.32	
13,320.34	90.02	358.32	7,196.00	5,382.58	-403.95	0.00	0.00	0.00	0.00	PBHL_GOODIN 15N-

Database:	Denver Sales	Local Co-ordinate Reference:	Well GOODIN 15N-A6HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4981 & KB 17 @ 4998.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4981 & KB 17 @ 4998.00ft (ASSUMED)
Site:	GOODIN 15-7HZ Pad	North Reference:	True
Well:	GOODIN 15N-A6HZ	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
668.00	0.00	0.00	668.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Fox Hills									
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
1,509.00	0.00	0.00	1,509.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,609.00	0.00	0.00	1,609.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,700.00	1.82	193.90	1,699.98	-1.40	-0.35	-1.40	2.00	2.00	0.00
1,800.00	3.82	193.90	1,799.86	-6.18	-1.53	-6.16	2.00	2.00	0.00
1,900.00	5.82	193.90	1,899.50	-14.33	-3.55	-14.30	2.00	2.00	0.00
2,000.00	7.82	193.90	1,998.79	-25.86	-6.40	-25.79	2.00	2.00	0.00
2,100.00	9.82	193.90	2,097.60	-40.74	-10.08	-40.63	2.00	2.00	0.00
2,200.00	11.82	193.90	2,195.82	-58.97	-14.59	-58.81	2.00	2.00	0.00
2,224.28	12.31	193.90	2,219.56	-63.89	-15.81	-63.72	2.00	2.00	0.00
Start 3679.41 hold at 2224.28 MD									
2,300.00	12.31	193.90	2,293.54	-79.56	-19.69	-79.34	0.00	0.00	0.00
2,400.00	12.31	193.90	2,391.24	-100.25	-24.81	-99.97	0.00	0.00	0.00
2,500.00	12.31	193.90	2,488.95	-120.93	-29.93	-120.60	0.00	0.00	0.00
2,600.00	12.31	193.90	2,586.65	-141.62	-35.05	-141.24	0.00	0.00	0.00
2,700.00	12.31	193.90	2,684.35	-162.31	-40.17	-161.87	0.00	0.00	0.00
2,800.00	12.31	193.90	2,782.05	-183.00	-45.29	-182.50	0.00	0.00	0.00
2,900.00	12.31	193.90	2,879.76	-203.69	-50.41	-203.13	0.00	0.00	0.00
3,000.00	12.31	193.90	2,977.46	-224.38	-55.53	-223.76	0.00	0.00	0.00
3,100.00	12.31	193.90	3,075.16	-245.07	-60.65	-244.39	0.00	0.00	0.00
3,200.00	12.31	193.90	3,172.86	-265.75	-65.77	-265.03	0.00	0.00	0.00
3,300.00	12.31	193.90	3,270.57	-286.44	-70.89	-285.66	0.00	0.00	0.00
3,400.00	12.31	193.90	3,368.27	-307.13	-76.01	-306.29	0.00	0.00	0.00
3,500.00	12.31	193.90	3,465.97	-327.82	-81.13	-326.92	0.00	0.00	0.00
3,600.00	12.31	193.90	3,563.67	-348.51	-86.24	-347.55	0.00	0.00	0.00
3,700.00	12.31	193.90	3,661.38	-369.20	-91.36	-368.19	0.00	0.00	0.00
3,800.00	12.31	193.90	3,759.08	-389.88	-96.48	-388.82	0.00	0.00	0.00
3,900.00	12.31	193.90	3,856.78	-410.57	-101.60	-409.45	0.00	0.00	0.00
4,000.00	12.31	193.90	3,954.48	-431.26	-106.72	-430.08	0.00	0.00	0.00
4,100.00	12.31	193.90	4,052.19	-451.95	-111.84	-450.71	0.00	0.00	0.00
4,200.00	12.31	193.90	4,149.89	-472.64	-116.96	-471.35	0.00	0.00	0.00
4,282.00	12.31	193.90	4,230.00	-489.60	-121.16	-488.26	0.00	0.00	0.00
Parkman									
4,300.00	12.31	193.90	4,247.59	-493.33	-122.08	-491.98	0.00	0.00	0.00

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4981 & KB 17 @ 4998.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4981 & KB 17 @ 4998.00ft (ASSUMED)
Site:	GOODIN 15-7HZ Pad	North Reference:	True
Well:	GOODIN 15N-A6HZ	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)
4,400.00	12.31	193.90	4,345.29	-514.02	-127.20	-512.61	0.00	0.00	0.00
4,500.00	12.31	193.90	4,443.00	-534.70	-132.32	-533.24	0.00	0.00	0.00
4,546.06	12.31	193.90	4,488.00	-544.23	-134.68	-542.75	0.00	0.00	0.00
Sussex									
4,600.00	12.31	193.90	4,540.70	-555.39	-137.44	-553.87	0.00	0.00	0.00
4,700.00	12.31	193.90	4,638.40	-576.08	-142.56	-574.51	0.00	0.00	0.00
4,800.00	12.31	193.90	4,736.10	-596.77	-147.68	-595.14	0.00	0.00	0.00
4,900.00	12.31	193.90	4,833.81	-617.46	-152.80	-615.77	0.00	0.00	0.00
5,000.00	12.31	193.90	4,931.51	-638.15	-157.92	-636.40	0.00	0.00	0.00
5,100.00	12.31	193.90	5,029.21	-658.84	-163.04	-657.03	0.00	0.00	0.00
5,200.00	12.31	193.90	5,126.91	-679.52	-168.16	-677.66	0.00	0.00	0.00
5,300.00	12.31	193.90	5,224.62	-700.21	-173.28	-698.30	0.00	0.00	0.00
5,400.00	12.31	193.90	5,322.32	-720.90	-178.40	-718.93	0.00	0.00	0.00
5,500.00	12.31	193.90	5,420.02	-741.59	-183.52	-739.56	0.00	0.00	0.00
5,600.00	12.31	193.90	5,517.72	-762.28	-188.64	-760.19	0.00	0.00	0.00
5,700.00	12.31	193.90	5,615.43	-782.97	-193.76	-780.82	0.00	0.00	0.00
5,800.00	12.31	193.90	5,713.13	-803.66	-198.88	-801.46	0.00	0.00	0.00
5,900.00	12.31	193.90	5,810.83	-824.34	-204.00	-822.09	0.00	0.00	0.00
5,903.69	12.31	193.90	5,814.44	-825.11	-204.19	-822.85	0.00	0.00	0.00
Start Drop -2.00									
6,000.00	10.38	193.90	5,908.86	-843.49	-208.74	-841.19	2.00	-2.00	0.00
6,100.00	8.38	193.90	6,007.52	-859.31	-212.65	-856.96	2.00	-2.00	0.00
6,200.00	6.38	193.90	6,106.68	-871.78	-215.74	-869.39	2.00	-2.00	0.00
6,300.00	4.38	193.90	6,206.24	-880.88	-217.99	-878.47	2.00	-2.00	0.00
6,400.00	2.38	193.90	6,306.06	-886.60	-219.41	-884.18	2.00	-2.00	0.00
6,500.00	0.38	193.90	6,406.03	-888.94	-219.98	-886.51	2.00	-2.00	0.00
6,518.97	0.00	0.00	6,425.00	-889.00	-220.00	-886.57	2.00	-2.00	0.00
Start 200.04 hold at 6518.97 MD									
6,600.00	0.00	0.00	6,506.03	-889.00	-220.00	-886.57	0.00	0.00	0.00
6,700.00	0.00	0.00	6,606.03	-889.00	-220.00	-886.57	0.00	0.00	0.00
6,719.01	0.00	0.00	6,625.04	-889.00	-220.00	-886.57	0.00	0.00	0.00
Start DLS 10.00 TFO 358.32									
6,800.00	8.10	358.32	6,705.76	-883.29	-220.17	-880.85	10.00	10.00	0.00
6,900.00	18.10	358.32	6,803.03	-860.66	-220.83	-858.22	10.00	10.00	0.00
7,000.00	28.10	358.32	6,894.90	-821.50	-221.98	-819.05	10.00	10.00	0.00
7,098.02	37.90	358.32	6,977.00	-768.21	-223.54	-765.74	10.00	10.00	0.00
SSPG									
7,100.00	38.10	358.32	6,978.56	-766.98	-223.58	-764.52	10.00	10.00	0.00
7,142.49	42.35	358.32	7,011.00	-739.56	-224.38	-737.09	10.00	10.00	0.00
NBRR									
7,200.00	48.10	358.32	7,051.49	-698.77	-225.58	-696.29	10.00	10.00	0.00
7,300.00	58.10	358.32	7,111.46	-618.94	-227.92	-616.44	10.00	10.00	0.00
7,304.84	58.58	358.32	7,114.00	-614.82	-228.04	-612.32	10.00	10.00	0.00
N470_B_CK									
7,400.00	68.10	358.32	7,156.65	-529.92	-230.53	-527.39	10.00	10.00	0.00
7,479.10	76.01	358.32	7,181.00	-454.75	-232.74	-452.21	10.00	10.00	0.00
N700_C_CK									
7,500.00	78.10	358.32	7,185.68	-434.40	-233.33	-431.85	10.00	10.00	0.00
7,600.00	88.10	358.32	7,197.68	-335.29	-236.24	-332.72	10.00	10.00	0.00
7,619.22	90.02	358.32	7,198.00	-316.08	-236.80	-313.50	10.00	10.00	0.00
Start 5701.12 hold at 7619.22 MD - 7"(102 FSL 1796 FEL)									
7,700.00	90.02	358.32	7,197.97	-235.34	-239.17	-232.74	0.00	0.00	0.00
7,800.00	90.02	358.32	7,197.93	-135.38	-242.10	-132.75	0.00	0.00	0.00

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4981 & KB 17 @ 4998.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4981 & KB 17 @ 4998.00ft (ASSUMED)
Site:	GOODIN 15-7HZ Pad	North Reference:	True
Well:	GOODIN 15N-A6HZ	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)	
7,900.00	90.02	358.32	7,197.90	-35.42	-245.04	-32.77	0.00	0.00	0.00	
8,000.00	90.02	358.32	7,197.86	64.53	-247.97	67.21	0.00	0.00	0.00	
8,100.00	90.02	358.32	7,197.83	164.49	-250.90	167.20	0.00	0.00	0.00	
8,200.00	90.02	358.32	7,197.79	264.45	-253.83	267.18	0.00	0.00	0.00	
8,300.00	90.02	358.32	7,197.76	364.40	-256.76	367.16	0.00	0.00	0.00	
8,400.00	90.02	358.32	7,197.72	464.36	-259.70	467.14	0.00	0.00	0.00	
8,500.00	90.02	358.32	7,197.69	564.32	-262.63	567.13	0.00	0.00	0.00	
8,600.00	90.02	358.32	7,197.65	664.28	-265.56	667.11	0.00	0.00	0.00	
8,700.00	90.02	358.32	7,197.62	764.23	-268.49	767.09	0.00	0.00	0.00	
8,800.00	90.02	358.32	7,197.58	864.19	-271.42	867.08	0.00	0.00	0.00	
8,900.00	90.02	358.32	7,197.55	964.15	-274.35	967.06	0.00	0.00	0.00	
9,000.00	90.02	358.32	7,197.51	1,064.10	-277.29	1,067.04	0.00	0.00	0.00	
9,100.00	90.02	358.32	7,197.48	1,164.06	-280.22	1,167.02	0.00	0.00	0.00	
9,200.00	90.02	358.32	7,197.44	1,264.02	-283.15	1,267.01	0.00	0.00	0.00	
9,300.00	90.02	358.32	7,197.41	1,363.97	-286.08	1,366.99	0.00	0.00	0.00	
9,400.00	90.02	358.32	7,197.37	1,463.93	-289.01	1,466.97	0.00	0.00	0.00	
9,500.00	90.02	358.32	7,197.34	1,563.89	-291.94	1,566.96	0.00	0.00	0.00	
9,600.00	90.02	358.32	7,197.30	1,663.85	-294.88	1,666.94	0.00	0.00	0.00	
9,700.00	90.02	358.32	7,197.27	1,763.80	-297.81	1,766.92	0.00	0.00	0.00	
9,800.00	90.02	358.32	7,197.23	1,863.76	-300.74	1,866.90	0.00	0.00	0.00	
9,900.00	90.02	358.32	7,197.20	1,963.72	-303.67	1,966.89	0.00	0.00	0.00	
10,000.00	90.02	358.32	7,197.16	2,063.67	-306.60	2,066.87	0.00	0.00	0.00	
10,100.00	90.02	358.32	7,197.13	2,163.63	-309.54	2,166.85	0.00	0.00	0.00	
10,200.00	90.02	358.32	7,197.09	2,263.59	-312.47	2,266.84	0.00	0.00	0.00	
10,300.00	90.02	358.32	7,197.06	2,363.54	-315.40	2,366.82	0.00	0.00	0.00	
10,400.00	90.02	358.32	7,197.02	2,463.50	-318.33	2,466.80	0.00	0.00	0.00	
10,500.00	90.02	358.32	7,196.99	2,563.46	-321.26	2,566.78	0.00	0.00	0.00	
10,600.00	90.02	358.32	7,196.95	2,663.42	-324.19	2,666.77	0.00	0.00	0.00	
10,700.00	90.02	358.32	7,196.92	2,763.37	-327.13	2,766.75	0.00	0.00	0.00	
10,800.00	90.02	358.32	7,196.88	2,863.33	-330.06	2,866.73	0.00	0.00	0.00	
10,900.00	90.02	358.32	7,196.85	2,963.29	-332.99	2,966.72	0.00	0.00	0.00	
11,000.00	90.02	358.32	7,196.81	3,063.24	-335.92	3,066.70	0.00	0.00	0.00	
11,100.00	90.02	358.32	7,196.78	3,163.20	-338.85	3,166.68	0.00	0.00	0.00	
11,200.00	90.02	358.32	7,196.74	3,263.16	-341.79	3,266.67	0.00	0.00	0.00	
11,300.00	90.02	358.32	7,196.71	3,363.11	-344.72	3,366.65	0.00	0.00	0.00	
11,400.00	90.02	358.32	7,196.67	3,463.07	-347.65	3,466.63	0.00	0.00	0.00	
11,500.00	90.02	358.32	7,196.64	3,563.03	-350.58	3,566.61	0.00	0.00	0.00	
11,600.00	90.02	358.32	7,196.60	3,662.99	-353.51	3,666.60	0.00	0.00	0.00	
11,700.00	90.02	358.32	7,196.57	3,762.94	-356.44	3,766.58	0.00	0.00	0.00	
11,800.00	90.02	358.32	7,196.53	3,862.90	-359.38	3,866.56	0.00	0.00	0.00	
11,900.00	90.02	358.32	7,196.50	3,962.86	-362.31	3,966.55	0.00	0.00	0.00	
12,000.00	90.02	358.32	7,196.46	4,062.81	-365.24	4,066.53	0.00	0.00	0.00	
12,100.00	90.02	358.32	7,196.43	4,162.77	-368.17	4,166.51	0.00	0.00	0.00	
12,200.00	90.02	358.32	7,196.39	4,262.73	-371.10	4,266.49	0.00	0.00	0.00	
12,300.00	90.02	358.32	7,196.36	4,362.68	-374.04	4,366.48	0.00	0.00	0.00	
12,400.00	90.02	358.32	7,196.32	4,462.64	-376.97	4,466.46	0.00	0.00	0.00	
12,500.00	90.02	358.32	7,196.29	4,562.60	-379.90	4,566.44	0.00	0.00	0.00	
12,600.00	90.02	358.32	7,196.25	4,662.56	-382.83	4,666.43	0.00	0.00	0.00	
12,700.00	90.02	358.32	7,196.22	4,762.51	-385.76	4,766.41	0.00	0.00	0.00	
12,800.00	90.02	358.32	7,196.18	4,862.47	-388.69	4,866.39	0.00	0.00	0.00	
12,900.00	90.02	358.32	7,196.15	4,962.43	-391.63	4,966.37	0.00	0.00	0.00	
13,000.00	90.02	358.32	7,196.11	5,062.38	-394.56	5,066.36	0.00	0.00	0.00	
13,100.00	90.02	358.32	7,196.08	5,162.34	-397.49	5,166.34	0.00	0.00	0.00	
13,200.00	90.02	358.32	7,196.04	5,262.30	-400.42	5,266.32	0.00	0.00	0.00	

Database:	Denver Sales	Local Co-ordinate Reference:	Well GOODIN 15N-A6HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4981 & KB 17 @ 4998.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4981 & KB 17 @ 4998.00ft (ASSUMED)
Site:	GOODIN 15-7HZ Pad	North Reference:	True
Well:	GOODIN 15N-A6HZ	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)
13,300.00	90.02	358.32	7,196.01	5,362.25	-403.35	5,366.31	0.00	0.00	0.00
13,320.34	90.02	358.32	7,196.00	5,382.58	-403.95	5,386.64	0.00	0.00	0.00
TD at 13320.34 - PBHL_GOODIN 15N-A6HZ(500 FSL 1902 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 15N-A6	0.00	0.00	7,196.00	5,382.58	-403.95	1,271,029.78	3,222,736.38	40.0746230	-104.7040674
- plan hits target center									
- Point									

Casing Points									
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)					
1,509.00	1,509.00	9 5/8"	9.625	13.500					
7,619.22	7,198.00	7"(102 FSL 1796 FEL)	7.000	8.750					

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
668.00	667.00	Base Fox Hills				
4,282.00	4,229.00	Parkman				
4,546.06	4,487.00	Sussex				
7,098.02	6,976.00	SSPG				
7,142.49	7,010.00	NBRR				
7,304.84	7,113.00	N470_B_CK				
7,479.10	7,180.00	N700_C_CK				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
1,609.00	1,609.00	0.00	0.00	Start Build 2.00
2,224.28	2,219.56	-63.89	-15.81	Start 3679.41 hold at 2224.28 MD
5,903.69	5,814.44	-825.11	-204.19	Start Drop -2.00
6,518.97	6,425.00	-889.00	-220.00	Start 200.04 hold at 6518.97 MD
6,719.01	6,625.04	-889.00	-220.00	Start DLS 10.00 TFO 358.32
7,619.22	7,198.00	-316.09	-236.80	Start 5701.12 hold at 7619.22 MD
13,320.34	7,196.00	5,382.58	-403.95	TD at 13320.34