



Project: COLORADO NORTHERN ZONE - 83

Site: GOODIN 15-7HZ Pad

Well: GOODIN 16N-B6HZ

Wellbore: OH

Design: PLAN #1 PRELIMINARY

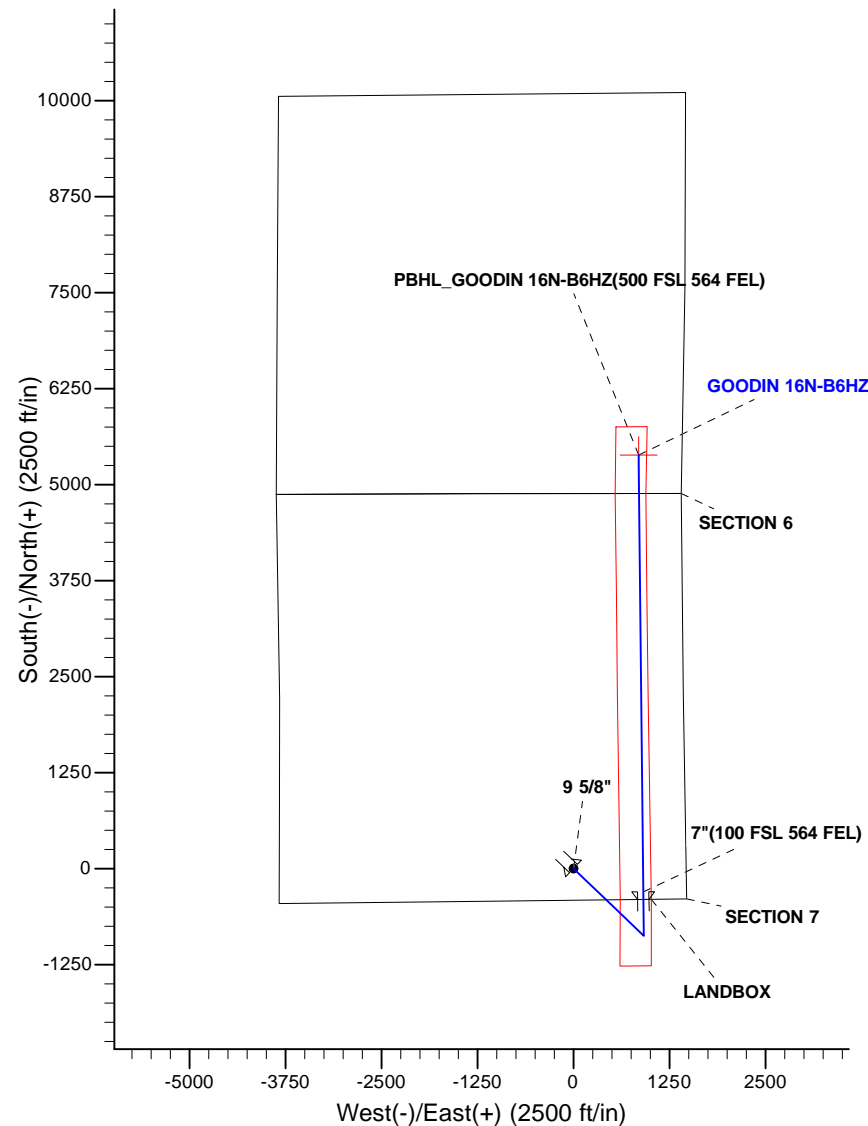
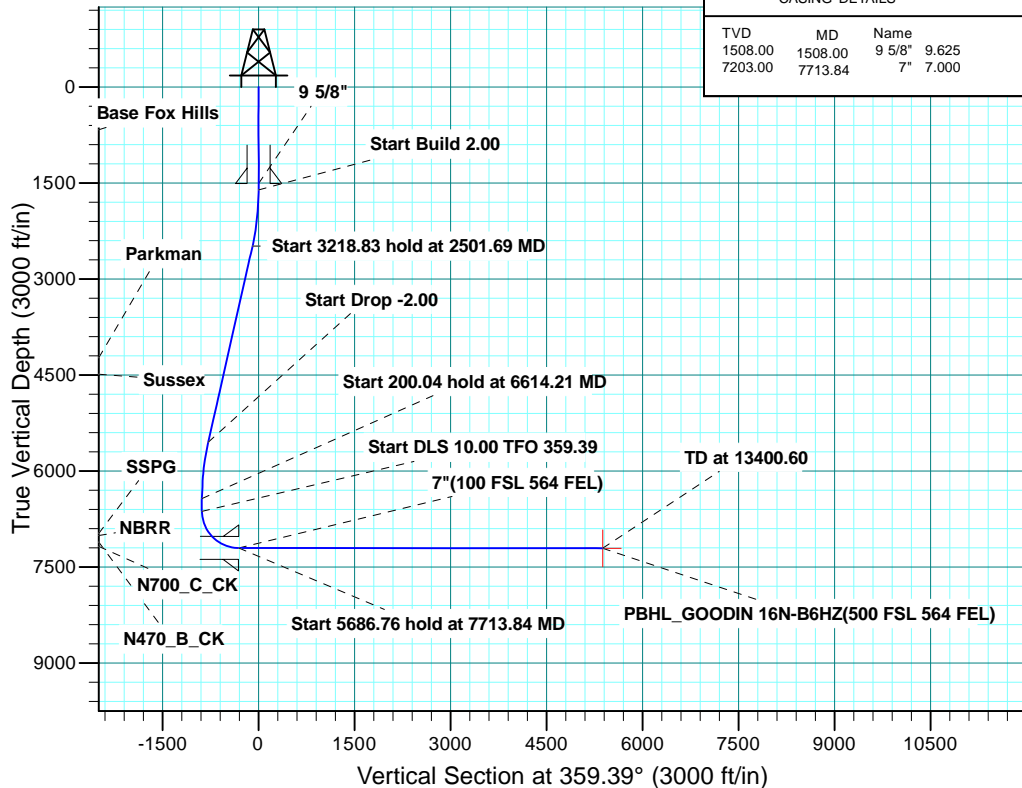


WELL DETAILS: GOODIN 16N-B6HZ								
GL 4980 & KB 17 @ 4997.00ft (ASSUMED)								
		+N-S	+E-W	Northing	Easting	Latitude	Longitude	
		0.00	0.00	1265651.14	3223278.84	40.0598449	-104.7023020	
SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1608.00	0.00	0.00	1608.00	0.00	0.00	0.00	0.00	0.00
2501.69	17.87	133.76	2487.26	-95.63	99.86	2.00	133.76	-96.69
5720.52	17.87	133.76	5550.74	-778.92	813.39	0.00	0.00	-787.53
6614.21	0.00	0.00	6430.00	-874.55	913.25	2.00	180.00	-884.22
6814.25	0.00	0.00	6630.04	-874.55	913.25	0.00	0.00	-884.22
7713.84	89.96	359.39	7203.00	-302.03	907.12	10.00	359.39	-311.67
13400.61	89.96	359.39	7207.00	5384.41	846.26	0.00	0.00	5375.10
PBHL_GOODIN 16N-B6HZ(500 FSL 564 FEL)								
DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL 7207.00		5384.41	846.26	1271042.94	3224076.63	40.0746260	-104.6992780	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	4331.75	Parkman	17.87
4487.00	4602.84	Sussex	17.87
6973.00	7181.93	SSPG	36.77
7007.00	7225.66	NBRR	41.14
7110.00	7383.21	N470_B_CK	56.90
7178.00	7544.37	N700_C_CK	73.01

CASING DETAILS			
TVD	MD	Name	
1508.00	1508.00	9 5/8"	9.625
7203.00	7713.84	7"	7.000



Plan: PLAN #1 PRELIMINARY (GOODIN 16N-B6HZ/OH)

Created By: R.Scott Date: 14:35, September 16 2014



Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

GOODIN 15-7HZ Pad

GOODIN 16N-B6HZ

OH

Plan: PLAN #1 PRELIMINARY

Standard Planning Report

08 September, 2014

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GOODIN 16N-B6HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
Site:	GOODIN 15-7HZ Pad	North Reference:	True
Well:	GOODIN 16N-B6HZ	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 16N-B6HZ, 411 FSL 1465 FEL			
Well Position	+N/-S	-0.74 ft	Northing:	1,265,651.15 usft
	+E/-W	120.08 ft	Easting:	3,223,278.84 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	4,980.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	09/08/14	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	359.39

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	
1,608.00	0.00	0.00	1,608.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,501.69	17.87	133.76	2,487.26	-95.63	99.86	2.00	2.00	0.00	133.76	
5,720.52	17.87	133.76	5,550.74	-778.92	813.39	0.00	0.00	0.00	0.00	
6,614.21	0.00	0.00	6,430.00	-874.55	913.25	2.00	-2.00	0.00	180.00	
6,814.25	0.00	0.00	6,630.04	-874.55	913.25	0.00	0.00	0.00	0.00	
7,713.84	89.96	359.39	7,203.00	-302.03	907.12	10.00	10.00	-0.07	359.39	
13,400.60	89.96	359.39	7,207.00	5,384.40	846.26	0.00	0.00	0.00	0.00	PBHL_GOODIN 16N-

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GOODIN 16N-B6HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
Site:	GOODIN 15-7HZ Pad	North Reference:	True
Well:	GOODIN 16N-B6HZ	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
667.00	0.00	0.00	667.00	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
1,508.00	0.00	0.00	1,508.00	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
1,608.00	0.00	0.00	1,608.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,700.00	1.84	133.76	1,699.98	-1.02	1.07	-1.03	2.00	2.00	0.00
1,800.00	3.84	133.76	1,799.86	-4.45	4.65	-4.50	2.00	2.00	0.00
1,900.00	5.84	133.76	1,899.49	-10.28	10.74	-10.40	2.00	2.00	0.00
2,000.00	7.84	133.76	1,998.78	-18.52	19.34	-18.73	2.00	2.00	0.00
2,100.00	9.84	133.76	2,097.59	-29.15	30.44	-29.47	2.00	2.00	0.00
2,200.00	11.84	133.76	2,195.80	-42.16	44.02	-42.62	2.00	2.00	0.00
2,300.00	13.84	133.76	2,293.29	-57.52	60.07	-58.16	2.00	2.00	0.00
2,400.00	15.84	133.76	2,389.95	-75.24	78.57	-76.07	2.00	2.00	0.00
2,500.00	17.84	133.76	2,485.66	-95.27	99.49	-96.33	2.00	2.00	0.00
2,501.69	17.87	133.76	2,487.26	-95.63	99.86	-96.69	2.00	2.00	0.00
Start 3218.83 hold at 2501.69 MD									
2,600.00	17.87	133.76	2,580.83	-116.50	121.66	-117.79	0.00	0.00	0.00
2,700.00	17.87	133.76	2,676.00	-137.73	143.82	-139.25	0.00	0.00	0.00
2,800.00	17.87	133.76	2,771.18	-158.96	165.99	-160.72	0.00	0.00	0.00
2,900.00	17.87	133.76	2,866.35	-180.18	188.16	-182.18	0.00	0.00	0.00
3,000.00	17.87	133.76	2,961.52	-201.41	210.33	-203.64	0.00	0.00	0.00
3,100.00	17.87	133.76	3,056.70	-222.64	232.49	-225.10	0.00	0.00	0.00
3,200.00	17.87	133.76	3,151.87	-243.87	254.66	-246.57	0.00	0.00	0.00
3,300.00	17.87	133.76	3,247.04	-265.10	276.83	-268.03	0.00	0.00	0.00
3,400.00	17.87	133.76	3,342.22	-286.32	298.99	-289.49	0.00	0.00	0.00
3,500.00	17.87	133.76	3,437.39	-307.55	321.16	-310.95	0.00	0.00	0.00
3,600.00	17.87	133.76	3,532.57	-328.78	343.33	-332.42	0.00	0.00	0.00
3,700.00	17.87	133.76	3,627.74	-350.01	365.50	-353.88	0.00	0.00	0.00
3,800.00	17.87	133.76	3,722.91	-371.23	387.66	-375.34	0.00	0.00	0.00
3,900.00	17.87	133.76	3,818.09	-392.46	409.83	-396.80	0.00	0.00	0.00
4,000.00	17.87	133.76	3,913.26	-413.69	432.00	-418.27	0.00	0.00	0.00
4,100.00	17.87	133.76	4,008.43	-434.92	454.16	-439.73	0.00	0.00	0.00
4,200.00	17.87	133.76	4,103.61	-456.15	476.33	-461.19	0.00	0.00	0.00
4,300.00	17.87	133.76	4,198.78	-477.37	498.50	-482.65	0.00	0.00	0.00
4,331.75	17.87	133.76	4,229.00	-484.11	505.54	-489.47	0.00	0.00	0.00
Parkman									

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
Site:	GOODIN 15-7HZ Pad	North Reference:	True
Well:	GOODIN 16N-B6HZ	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)
4,400.00	17.87	133.76	4,293.95	-498.60	520.67	-504.12	0.00	0.00	0.00
4,500.00	17.87	133.76	4,389.13	-519.83	542.83	-525.58	0.00	0.00	0.00
4,600.00	17.87	133.76	4,484.30	-541.06	565.00	-547.04	0.00	0.00	0.00
4,602.84	17.87	133.76	4,487.00	-541.66	565.63	-547.65	0.00	0.00	0.00
Sussex									
4,700.00	17.87	133.76	4,579.47	-562.28	587.17	-568.50	0.00	0.00	0.00
4,800.00	17.87	133.76	4,674.65	-583.51	609.33	-589.97	0.00	0.00	0.00
4,900.00	17.87	133.76	4,769.82	-604.74	631.50	-611.43	0.00	0.00	0.00
5,000.00	17.87	133.76	4,864.99	-625.97	653.67	-632.89	0.00	0.00	0.00
5,100.00	17.87	133.76	4,960.17	-647.20	675.84	-654.35	0.00	0.00	0.00
5,200.00	17.87	133.76	5,055.34	-668.42	698.00	-675.82	0.00	0.00	0.00
5,300.00	17.87	133.76	5,150.52	-689.65	720.17	-697.28	0.00	0.00	0.00
5,400.00	17.87	133.76	5,245.69	-710.88	742.34	-718.74	0.00	0.00	0.00
5,500.00	17.87	133.76	5,340.86	-732.11	764.50	-740.20	0.00	0.00	0.00
5,600.00	17.87	133.76	5,436.04	-753.33	786.67	-761.67	0.00	0.00	0.00
5,700.00	17.87	133.76	5,531.21	-774.56	808.84	-783.13	0.00	0.00	0.00
5,720.52	17.87	133.76	5,550.74	-778.92	813.39	-787.53	0.00	0.00	0.00
Start Drop -2.00									
5,800.00	16.28	133.76	5,626.71	-795.06	830.25	-803.86	2.00	-2.00	0.00
5,900.00	14.28	133.76	5,723.17	-813.29	849.28	-822.29	2.00	-2.00	0.00
6,000.00	12.28	133.76	5,820.49	-829.19	865.88	-838.36	2.00	-2.00	0.00
6,100.00	10.28	133.76	5,918.55	-842.72	880.01	-852.04	2.00	-2.00	0.00
6,200.00	8.28	133.76	6,017.24	-853.88	891.66	-863.32	2.00	-2.00	0.00
6,300.00	6.28	133.76	6,116.42	-862.64	900.82	-872.19	2.00	-2.00	0.00
6,400.00	4.28	133.76	6,215.99	-869.01	907.47	-878.63	2.00	-2.00	0.00
6,500.00	2.28	133.76	6,315.82	-872.98	911.61	-882.63	2.00	-2.00	0.00
6,600.00	0.28	133.76	6,415.79	-874.53	913.22	-884.20	2.00	-2.00	0.00
6,614.21	0.00	0.00	6,430.00	-874.55	913.25	-884.22	2.00	-2.00	0.00
Start 200.04 hold at 6614.21 MD									
6,700.00	0.00	0.00	6,515.79	-874.55	913.25	-884.22	0.00	0.00	0.00
6,800.00	0.00	0.00	6,615.79	-874.55	913.25	-884.22	0.00	0.00	0.00
6,814.25	0.00	0.00	6,630.04	-874.55	913.25	-884.22	0.00	0.00	0.00
Start DLS 10.00 TFO 359.39									
6,900.00	8.58	359.39	6,715.47	-868.14	913.18	-877.82	10.00	10.00	0.00
7,000.00	18.58	359.39	6,812.56	-844.70	912.93	-854.37	10.00	10.00	0.00
7,100.00	28.58	359.39	6,904.09	-804.76	912.50	-814.43	10.00	10.00	0.00
7,181.93	36.77	359.39	6,973.00	-760.57	912.03	-770.24	10.00	10.00	0.00
SSPG									
7,200.00	38.58	359.39	6,987.30	-749.53	911.91	-759.20	10.00	10.00	0.00
7,225.66	41.14	359.39	7,007.00	-733.09	911.74	-742.75	10.00	10.00	0.00
NBRR									
7,300.00	48.58	359.39	7,059.66	-680.69	911.18	-690.35	10.00	10.00	0.00
7,383.21	56.90	359.39	7,110.00	-614.53	910.47	-624.19	10.00	10.00	0.00
N470_B_CK									
7,400.00	58.58	359.39	7,118.96	-600.33	910.32	-609.99	10.00	10.00	0.00
7,500.00	68.58	359.39	7,163.41	-510.90	909.36	-520.55	10.00	10.00	0.00
7,544.37	73.01	359.39	7,178.00	-469.01	908.91	-478.66	10.00	10.00	0.00
N700_C_CK									
7,600.00	78.58	359.39	7,191.65	-415.11	908.33	-424.76	10.00	10.00	0.00
7,700.00	88.58	359.39	7,202.82	-315.87	907.27	-325.51	10.00	10.00	0.00
7,713.84	89.96	359.39	7,203.00	-302.03	907.12	-311.67	10.00	10.00	0.00
Start 5686.76 hold at 7713.84 MD - 7"(100 FSL 564 FEL)									
7,800.00	89.96	359.39	7,203.06	-215.88	906.20	-225.51	0.00	0.00	0.00

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
Site:	GOODIN 15-7HZ Pad	North Reference:	True
Well:	GOODIN 16N-B6HZ	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)
7,900.00	89.96	359.39	7,203.13	-115.88	905.13	-125.51	0.00	0.00	0.00
8,000.00	89.96	359.39	7,203.20	-15.89	904.06	-25.51	0.00	0.00	0.00
8,100.00	89.96	359.39	7,203.27	84.11	902.99	74.49	0.00	0.00	0.00
8,200.00	89.96	359.39	7,203.34	184.10	901.92	174.49	0.00	0.00	0.00
8,300.00	89.96	359.39	7,203.41	284.10	900.85	274.49	0.00	0.00	0.00
8,400.00	89.96	359.39	7,203.48	384.09	899.78	374.49	0.00	0.00	0.00
8,500.00	89.96	359.39	7,203.55	484.08	898.71	474.49	0.00	0.00	0.00
8,600.00	89.96	359.39	7,203.62	584.08	897.64	574.49	0.00	0.00	0.00
8,700.00	89.96	359.39	7,203.69	684.07	896.57	674.49	0.00	0.00	0.00
8,800.00	89.96	359.39	7,203.76	784.07	895.50	774.49	0.00	0.00	0.00
8,900.00	89.96	359.39	7,203.83	884.06	894.43	874.49	0.00	0.00	0.00
9,000.00	89.96	359.39	7,203.90	984.06	893.36	974.49	0.00	0.00	0.00
9,100.00	89.96	359.39	7,203.97	1,084.05	892.29	1,074.49	0.00	0.00	0.00
9,200.00	89.96	359.39	7,204.04	1,184.04	891.22	1,174.49	0.00	0.00	0.00
9,300.00	89.96	359.39	7,204.11	1,284.04	890.15	1,274.49	0.00	0.00	0.00
9,400.00	89.96	359.39	7,204.18	1,384.03	889.08	1,374.49	0.00	0.00	0.00
9,500.00	89.96	359.39	7,204.25	1,484.03	888.01	1,474.49	0.00	0.00	0.00
9,600.00	89.96	359.39	7,204.33	1,584.02	886.94	1,574.49	0.00	0.00	0.00
9,700.00	89.96	359.39	7,204.40	1,684.02	885.87	1,674.49	0.00	0.00	0.00
9,800.00	89.96	359.39	7,204.47	1,784.01	884.79	1,774.49	0.00	0.00	0.00
9,900.00	89.96	359.39	7,204.54	1,884.00	883.72	1,874.49	0.00	0.00	0.00
10,000.00	89.96	359.39	7,204.61	1,984.00	882.65	1,974.49	0.00	0.00	0.00
10,100.00	89.96	359.39	7,204.68	2,083.99	881.58	2,074.49	0.00	0.00	0.00
10,200.00	89.96	359.39	7,204.75	2,183.99	880.51	2,174.49	0.00	0.00	0.00
10,300.00	89.96	359.39	7,204.82	2,283.98	879.44	2,274.49	0.00	0.00	0.00
10,400.00	89.96	359.39	7,204.89	2,383.98	878.37	2,374.49	0.00	0.00	0.00
10,500.00	89.96	359.39	7,204.96	2,483.97	877.30	2,474.49	0.00	0.00	0.00
10,600.00	89.96	359.39	7,205.03	2,583.96	876.23	2,574.49	0.00	0.00	0.00
10,700.00	89.96	359.39	7,205.10	2,683.96	875.16	2,674.49	0.00	0.00	0.00
10,800.00	89.96	359.39	7,205.17	2,783.95	874.09	2,774.49	0.00	0.00	0.00
10,900.00	89.96	359.39	7,205.24	2,883.95	873.02	2,874.49	0.00	0.00	0.00
11,000.00	89.96	359.39	7,205.31	2,983.94	871.95	2,974.49	0.00	0.00	0.00
11,100.00	89.96	359.39	7,205.38	3,083.93	870.88	3,074.49	0.00	0.00	0.00
11,200.00	89.96	359.39	7,205.45	3,183.93	869.81	3,174.49	0.00	0.00	0.00
11,300.00	89.96	359.39	7,205.52	3,283.92	868.74	3,274.49	0.00	0.00	0.00
11,400.00	89.96	359.39	7,205.59	3,383.92	867.67	3,374.49	0.00	0.00	0.00
11,500.00	89.96	359.39	7,205.66	3,483.91	866.60	3,474.49	0.00	0.00	0.00
11,600.00	89.96	359.39	7,205.73	3,583.91	865.53	3,574.49	0.00	0.00	0.00
11,700.00	89.96	359.39	7,205.80	3,683.90	864.46	3,674.49	0.00	0.00	0.00
11,800.00	89.96	359.39	7,205.87	3,783.89	863.39	3,774.49	0.00	0.00	0.00
11,900.00	89.96	359.39	7,205.94	3,883.89	862.32	3,874.49	0.00	0.00	0.00
12,000.00	89.96	359.39	7,206.01	3,983.88	861.25	3,974.49	0.00	0.00	0.00
12,100.00	89.96	359.39	7,206.08	4,083.88	860.18	4,074.49	0.00	0.00	0.00
12,200.00	89.96	359.39	7,206.16	4,183.87	859.11	4,174.49	0.00	0.00	0.00
12,300.00	89.96	359.39	7,206.23	4,283.87	858.04	4,274.49	0.00	0.00	0.00
12,400.00	89.96	359.39	7,206.30	4,383.86	856.97	4,374.49	0.00	0.00	0.00
12,500.00	89.96	359.39	7,206.37	4,483.85	855.90	4,474.49	0.00	0.00	0.00
12,600.00	89.96	359.39	7,206.44	4,583.85	854.83	4,574.49	0.00	0.00	0.00
12,700.00	89.96	359.39	7,206.51	4,683.84	853.76	4,674.49	0.00	0.00	0.00
12,800.00	89.96	359.39	7,206.58	4,783.84	852.69	4,774.49	0.00	0.00	0.00
12,900.00	89.96	359.39	7,206.65	4,883.83	851.62	4,874.49	0.00	0.00	0.00
13,000.00	89.96	359.39	7,206.72	4,983.83	850.55	4,974.49	0.00	0.00	0.00
13,100.00	89.96	359.39	7,206.79	5,083.82	849.48	5,074.49	0.00	0.00	0.00
13,200.00	89.96	359.39	7,206.86	5,183.81	848.41	5,174.49	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well GOODIN 16N-B6HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4980 & KB 17 @ 4997.00ft (ASSUMED)
Site:	GOODIN 15-7HZ Pad	North Reference:	True
Well:	GOODIN 16N-B6HZ	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)
13,300.00	89.96	359.39	7,206.93	5,283.81	847.34	5,274.49	0.00	0.00	0.00
13,400.00	89.96	359.39	7,207.00	5,383.80	846.27	5,374.49	0.00	0.00	0.00
13,400.60	89.96	359.39	7,207.00	5,384.40	846.26	5,375.09	0.00	0.00	0.00
TD at 13400.60 - PBHL_GOODIN 16N-B6HZ(500 FSL 564 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 16N-B6	0.00	0.00	7,207.00	5,384.40	846.26	1,271,042.94	3,224,076.63	40.0746260	-104.6992780
- 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	
7,713.84	7,203.00	7"(100 FSL 564 FEL)	7.000	8.750	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
667.00	667.00	Base Fox Hills			
4,331.75	4,229.00	Parkman			
4,602.84	4,487.00	Sussex			
7,181.93	6,973.00	SSPG			
7,225.66	7,007.00	NBRR			
7,383.21	7,110.00	N470_B_CK			
7,544.37	7,178.00	N700_C_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	
2,501.69	2,487.26	-95.63	99.86	Start 3218.83 hold at 2501.69 MD	
5,720.52	5,550.74	-778.92	813.39	Start Drop -2.00	
6,614.21	6,430.00	-874.55	913.25	Start 200.04 hold at 6614.21 MD	
6,814.25	6,630.04	-874.55	913.25	Start DLS 10.00 TFO 359.39	
7,713.84	7,203.00	-302.03	907.12	Start 5686.76 hold at 7713.84 MD	
13,400.60	7,207.00	5,384.40	846.26	TD at 13400.60	