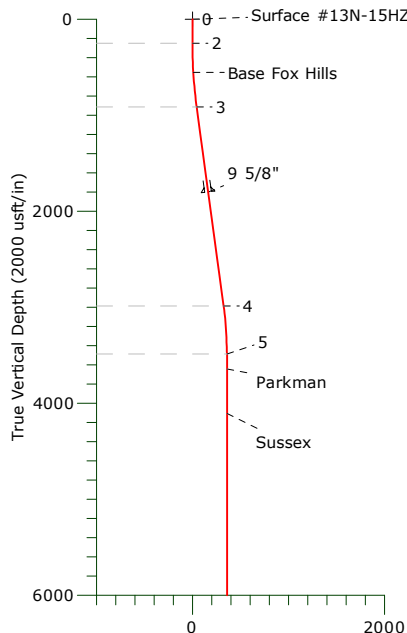
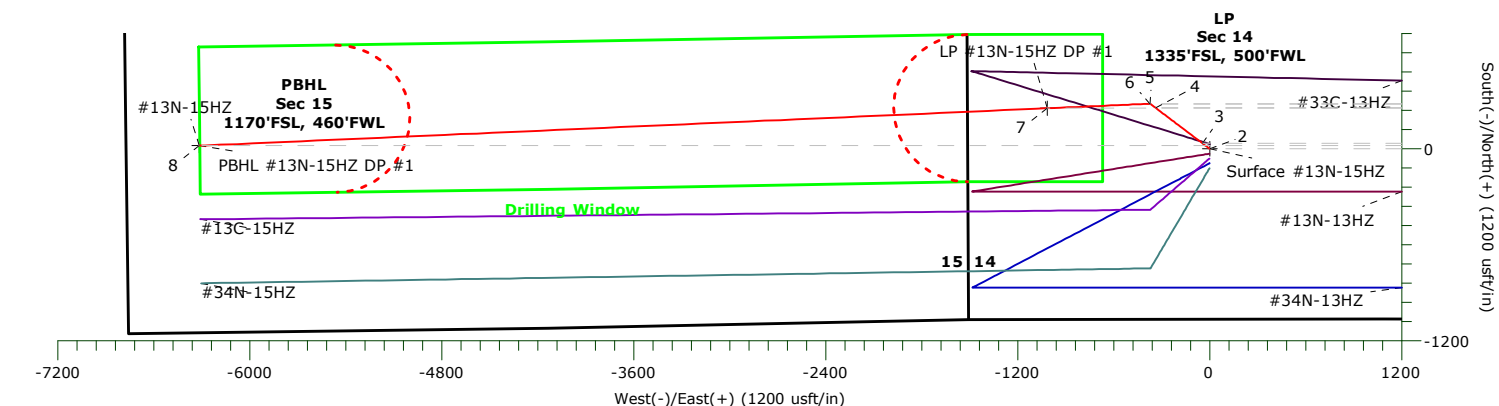
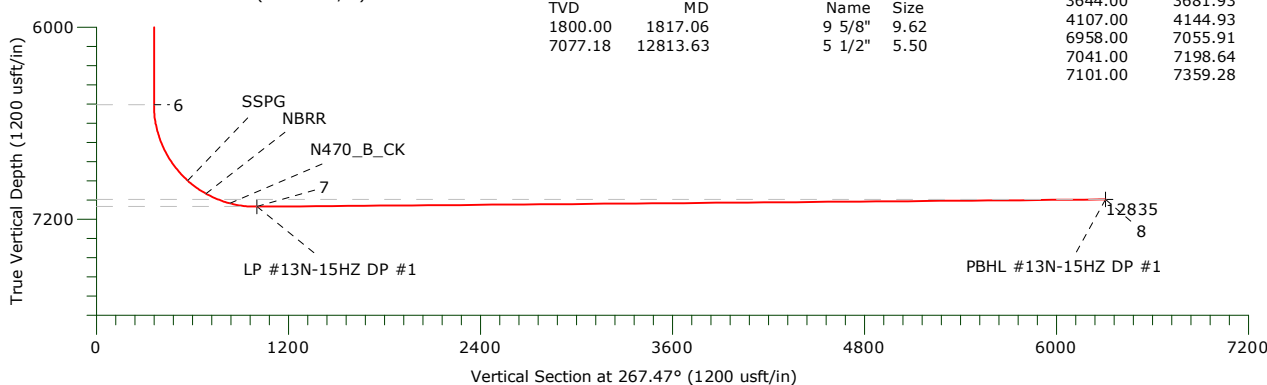


# US ROCKIES WATTENBERG PLANNING

Project: WELD-NAD83-UTMFT13N  
Site: 3N-68W-14 Docheff 19-14HZ  
Well: #13N-15HZ  
Wellbore: Original Hole  
Design: DP #1



Vertical Section at 267.47° (2000 usft/in)



Vertical Section at 267.47° (1200 usft/in)

CASING DETAILS			
TVD	MD	Name	Size
1800.00	1817.06	9 5/8"	9.62
7077.18	12813.63	5 1/2"	5.50

FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
555.00	555.33	Base Fox Hills	
3644.00	3681.93	Parkman	
4107.00	4144.93	Sussex	
6958.00	7055.91	SSPG	
7041.00	7198.64	NBRR	
7101.00	7359.28	N470_B_CK	

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Surface #13N-15HZ	0.00	0.00	0.00	14607522.81	1647614.64	40.221856°N	104.974214°W	Point
PBHL #13N-15HZ DP #1	7077.00	19.34	-6315.09	14607540.31	1641299.54	40.221907°N	104.996837°W	Point
LP #13N-15HZ DP #1	7122.00	253.64	-1014.24	14607776.15	1646600.32	40.222552°N	104.977847°W	Point

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	916.67	10.00	307.10	913.29	35.01	-46.28	1.50	307.10	44.69	
4	3023.92	10.00	307.10	2988.53	255.74	-338.14	0.00	0.00	326.52	
5	3523.93	0.00	0.00	3486.00	281.99	-372.85	2.00	180.00	360.04	
6	6523.33	0.00	0.00	6485.40	281.99	-372.85	0.00	0.00	360.04	
7	7528.73	90.49	267.47	7122.00	253.64	-1014.24	9.00	267.47	1002.06	
8	12834.94	90.49	267.47	7077.00	19.34	-6315.09	0.00	0.00	6308.08	

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
3N-68W-14 Docheff 19-14HZ  
#13N-15HZ**

**Original Hole**

**Plan: DP #1**

## **Standard Planning Report**

**30 March, 2016**

# Precision Drilling Corporation

## Planning Report

<b>Database:</b>	Compass_Rockies	<b>Local Co-ordinate Reference:</b>	Well #13N-15HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	4935'GL+20'KB @ 4955.00usft (PD461)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	4935'GL+20'KB @ 4955.00usft (PD461)
<b>Site:</b>	3N-68W-14 Docheff 19-14HZ	<b>North Reference:</b>	True
<b>Well:</b>	#13N-15HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	DP #1		

<b>Project</b>	WELD-NAD83-UTMFT13N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

<b>Site</b>	3N-68W-14 Docheff 19-14HZ		
<b>Site Position:</b>		<b>Northing:</b>	14,607,552.66 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,647,614.62 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.20 in
		<b>Latitude:</b>	40.221938°N
		<b>Longitude:</b>	104.974214°W
		<b>Grid Convergence:</b>	0.02 °

<b>Well</b>	#13N-15HZ		
<b>Well Position</b>	<b>+N-S</b>	-29.86 usft	<b>Northing:</b> 14,607,522.80 usft
	<b>+E-W</b>	0.00 usft	<b>Easting:</b> 1,647,614.63 usft
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b> 0.00 usft
			<b>Latitude:</b> 40.221856°N
			<b>Longitude:</b> 104.974214°W
			<b>Ground Level:</b> 4,935.00 usft

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	03/17/16	8.44	66.71	52,419

<b>Design</b>	DP #1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE		<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N-S (usft)</b>	<b>+E-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	267.47	

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
916.67	10.00	307.10	913.29	35.01	-46.28	1.50	1.50	0.00	307.10	
3,023.92	10.00	307.10	2,988.53	255.74	-338.14	0.00	0.00	0.00	0.00	
3,523.93	0.00	0.00	3,486.00	281.99	-372.85	2.00	-2.00	0.00	180.00	
6,523.33	0.00	0.00	6,485.40	281.99	-372.85	0.00	0.00	0.00	0.00	
7,528.73	90.49	267.47	7,122.00	253.64	-1,014.24	9.00	9.00	-9.20	267.47	
12,834.94	90.49	267.47	7,077.00	19.34	-6,315.09	0.00	0.00	0.00	0.00	

# Precision Drilling Corporation

## Planning Report

<b>Database:</b>	Compass_Rockies	<b>Local Co-ordinate Reference:</b>	Well #13N-15HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	4935'GL+20'KB @ 4955.00usft (PD461)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	4935'GL+20'KB @ 4955.00usft (PD461)
<b>Site:</b>	3N-68W-14 Docheff 19-14HZ	<b>North Reference:</b>	True
<b>Well:</b>	#13N-15HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	DP #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	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	
<b>1</b>										
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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>2</b>										
300.00	0.75	307.10	300.00	0.20	-0.26	0.25	1.50	1.50	0.00	
400.00	2.25	307.10	399.96	1.78	-2.35	2.27	1.50	1.50	0.00	
500.00	3.75	307.10	499.82	4.93	-6.52	6.30	1.50	1.50	0.00	
555.33	4.58	307.10	555.00	7.36	-9.73	9.39	1.50	1.50	0.00	
<b>Base Fox Hills</b>										
600.00	5.25	307.10	599.51	9.67	-12.78	12.34	1.50	1.50	0.00	
700.00	6.75	307.10	698.96	15.97	-21.12	20.39	1.50	1.50	0.00	
800.00	8.25	307.10	798.10	23.84	-31.53	30.44	1.50	1.50	0.00	
900.00	9.75	307.10	896.87	33.28	-44.00	42.49	1.50	1.50	0.00	
916.67	10.00	307.10	913.29	35.01	-46.28	44.69	1.50	1.50	0.00	
<b>3</b>										
1,000.00	10.00	307.10	995.35	43.73	-57.83	55.84	0.00	0.00	0.00	
1,100.00	10.00	307.10	1,093.84	54.21	-71.68	69.21	0.00	0.00	0.00	
1,200.00	10.00	307.10	1,192.32	64.68	-85.52	82.59	0.00	0.00	0.00	
1,300.00	10.00	307.10	1,290.80	75.16	-99.37	95.96	0.00	0.00	0.00	
1,400.00	10.00	307.10	1,389.28	85.63	-113.22	109.33	0.00	0.00	0.00	
1,500.00	10.00	307.10	1,487.76	96.11	-127.07	122.71	0.00	0.00	0.00	
1,600.00	10.00	307.10	1,586.24	106.58	-140.92	136.08	0.00	0.00	0.00	
1,700.00	10.00	307.10	1,684.72	117.06	-154.77	149.46	0.00	0.00	0.00	
1,800.00	10.00	307.10	1,783.20	127.53	-168.62	162.83	0.00	0.00	0.00	
1,900.00	10.00	307.10	1,881.68	138.01	-182.47	176.20	0.00	0.00	0.00	
2,000.00	10.00	307.10	1,980.16	148.48	-196.32	189.58	0.00	0.00	0.00	
2,100.00	10.00	307.10	2,078.64	158.96	-210.17	202.95	0.00	0.00	0.00	
2,200.00	10.00	307.10	2,177.12	169.43	-224.02	216.33	0.00	0.00	0.00	
2,300.00	10.00	307.10	2,275.60	179.91	-237.87	229.70	0.00	0.00	0.00	
2,400.00	10.00	307.10	2,374.09	190.38	-251.72	243.07	0.00	0.00	0.00	
2,500.00	10.00	307.10	2,472.57	200.86	-265.57	256.45	0.00	0.00	0.00	
2,600.00	10.00	307.10	2,571.05	211.33	-279.42	269.82	0.00	0.00	0.00	
2,700.00	10.00	307.10	2,669.53	221.81	-293.27	283.20	0.00	0.00	0.00	
2,800.00	10.00	307.10	2,768.01	232.28	-307.12	296.57	0.00	0.00	0.00	
2,900.00	10.00	307.10	2,866.49	242.76	-320.97	309.94	0.00	0.00	0.00	
3,000.00	10.00	307.10	2,964.97	253.23	-334.82	323.32	0.00	0.00	0.00	
3,023.92	10.00	307.10	2,988.53	255.74	-338.14	326.52	0.00	0.00	0.00	
<b>4</b>										
3,100.00	8.48	307.10	3,063.62	263.10	-347.88	335.93	2.00	-2.00	0.00	
3,200.00	6.48	307.10	3,162.76	270.95	-358.26	345.95	2.00	-2.00	0.00	
3,300.00	4.48	307.10	3,262.30	276.71	-365.87	353.30	2.00	-2.00	0.00	
3,400.00	2.48	307.10	3,362.11	280.37	-370.71	357.97	2.00	-2.00	0.00	
3,500.00	0.48	307.10	3,462.07	281.93	-372.77	359.96	2.00	-2.00	0.00	
3,523.93	0.00	0.00	3,486.00	281.99	-372.85	360.04	2.00	-2.00	0.00	
<b>5</b>										
3,600.00	0.00	0.00	3,562.07	281.99	-372.85	360.04	0.00	0.00	0.00	
3,681.93	0.00	0.00	3,644.00	281.99	-372.85	360.04	0.00	0.00	0.00	
<b>Parkman</b>										
3,700.00	0.00	0.00	3,662.07	281.99	-372.85	360.04	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,762.07	281.99	-372.85	360.04	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,862.07	281.99	-372.85	360.04	0.00	0.00	0.00	

# Precision Drilling Corporation

## Planning Report

<b>Database:</b>	Compass_Rockies	<b>Local Co-ordinate Reference:</b>	Well #13N-15HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	4935'GL+20'KB @ 4955.00usft (PD461)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	4935'GL+20'KB @ 4955.00usft (PD461)
<b>Site:</b>	3N-68W-14 Docheff 19-14HZ	<b>North Reference:</b>	True
<b>Well:</b>	#13N-15HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	DP #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,000.00	0.00	0.00	3,962.07	281.99	-372.85	360.04	0.00	0.00	0.00
4,100.00	0.00	0.00	4,062.07	281.99	-372.85	360.04	0.00	0.00	0.00
4,144.93	0.00	0.00	4,107.00	281.99	-372.85	360.04	0.00	0.00	0.00
<b>Sussex</b>									
4,200.00	0.00	0.00	4,162.07	281.99	-372.85	360.04	0.00	0.00	0.00
4,300.00	0.00	0.00	4,262.07	281.99	-372.85	360.04	0.00	0.00	0.00
4,400.00	0.00	0.00	4,362.07	281.99	-372.85	360.04	0.00	0.00	0.00
4,500.00	0.00	0.00	4,462.07	281.99	-372.85	360.04	0.00	0.00	0.00
4,600.00	0.00	0.00	4,562.07	281.99	-372.85	360.04	0.00	0.00	0.00
4,700.00	0.00	0.00	4,662.07	281.99	-372.85	360.04	0.00	0.00	0.00
4,800.00	0.00	0.00	4,762.07	281.99	-372.85	360.04	0.00	0.00	0.00
4,900.00	0.00	0.00	4,862.07	281.99	-372.85	360.04	0.00	0.00	0.00
5,000.00	0.00	0.00	4,962.07	281.99	-372.85	360.04	0.00	0.00	0.00
5,100.00	0.00	0.00	5,062.07	281.99	-372.85	360.04	0.00	0.00	0.00
5,200.00	0.00	0.00	5,162.07	281.99	-372.85	360.04	0.00	0.00	0.00
5,300.00	0.00	0.00	5,262.07	281.99	-372.85	360.04	0.00	0.00	0.00
5,400.00	0.00	0.00	5,362.07	281.99	-372.85	360.04	0.00	0.00	0.00
5,500.00	0.00	0.00	5,462.07	281.99	-372.85	360.04	0.00	0.00	0.00
5,600.00	0.00	0.00	5,562.07	281.99	-372.85	360.04	0.00	0.00	0.00
5,700.00	0.00	0.00	5,662.07	281.99	-372.85	360.04	0.00	0.00	0.00
5,800.00	0.00	0.00	5,762.07	281.99	-372.85	360.04	0.00	0.00	0.00
5,900.00	0.00	0.00	5,862.07	281.99	-372.85	360.04	0.00	0.00	0.00
6,000.00	0.00	0.00	5,962.07	281.99	-372.85	360.04	0.00	0.00	0.00
6,100.00	0.00	0.00	6,062.07	281.99	-372.85	360.04	0.00	0.00	0.00
6,200.00	0.00	0.00	6,162.07	281.99	-372.85	360.04	0.00	0.00	0.00
6,300.00	0.00	0.00	6,262.07	281.99	-372.85	360.04	0.00	0.00	0.00
6,400.00	0.00	0.00	6,362.07	281.99	-372.85	360.04	0.00	0.00	0.00
6,500.00	0.00	0.00	6,462.07	281.99	-372.85	360.04	0.00	0.00	0.00
6,523.33	0.00	0.00	6,485.40	281.99	-372.85	360.04	0.00	0.00	0.00
<b>6</b>									
6,550.00	2.40	267.47	6,512.06	281.97	-373.41	360.60	9.00	9.00	0.00
6,600.00	6.90	267.47	6,561.89	281.79	-377.46	364.65	9.00	9.00	0.00
6,650.00	11.40	267.47	6,611.24	281.44	-385.40	372.60	9.00	9.00	0.00
6,700.00	15.90	267.47	6,659.81	280.91	-397.18	384.40	9.00	9.00	0.00
6,750.00	20.40	267.47	6,707.31	280.23	-412.74	399.97	9.00	9.00	0.00
6,800.00	24.90	267.47	6,753.44	279.38	-431.97	419.22	9.00	9.00	0.00
6,850.00	29.40	267.47	6,797.92	278.37	-454.76	442.03	9.00	9.00	0.00
6,900.00	33.90	267.47	6,840.48	277.21	-480.96	468.26	9.00	9.00	0.00
6,950.00	38.40	267.47	6,880.84	275.91	-510.42	497.75	9.00	9.00	0.00
7,000.00	42.90	267.47	6,918.76	274.47	-542.96	530.31	9.00	9.00	0.00
7,050.00	47.40	267.47	6,954.02	272.91	-578.36	565.75	9.00	9.00	0.00
7,055.91	47.93	267.47	6,958.00	272.71	-582.73	570.12	9.00	9.00	0.00
<b>SSPG</b>									
7,100.00	51.90	267.47	6,986.38	271.22	-616.42	603.84	9.00	9.00	0.00
7,150.00	56.40	267.47	7,015.66	269.44	-656.90	644.36	9.00	9.00	0.00
7,198.64	60.78	267.47	7,041.00	267.60	-698.36	685.86	9.00	9.00	0.00
<b>NBRR</b>									
7,200.00	60.90	267.47	7,041.66	267.55	-699.54	687.05	9.00	9.00	0.00
7,250.00	65.40	267.47	7,064.24	265.58	-744.10	731.65	9.00	9.00	0.00
7,300.00	69.90	267.47	7,083.25	263.54	-790.29	777.88	9.00	9.00	0.00
7,350.00	74.40	267.47	7,098.57	261.44	-837.82	825.46	9.00	9.00	0.00
7,359.28	75.24	267.47	7,101.00	261.04	-846.77	834.42	9.00	9.00	0.00
<b>N470_B_CK</b>									
7,400.00	78.90	267.47	7,110.11	259.29	-886.41	874.10	9.00	9.00	0.00

# Precision Drilling Corporation

## Planning Report

<b>Database:</b>	Compass_Rockies	<b>Local Co-ordinate Reference:</b>	Well #13N-15HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	4935'GL+20'KB @ 4955.00usft (PD461)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	4935'GL+20'KB @ 4955.00usft (PD461)
<b>Site:</b>	3N-68W-14 Docheff 19-14HZ	<b>North Reference:</b>	True
<b>Well:</b>	#13N-15HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	DP #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,450.00	83.40	267.47	7,117.80	257.11	-935.75	923.49	9.00	9.00	0.00
7,500.00	87.90	267.47	7,121.59	254.91	-985.55	973.34	9.00	9.00	0.00
7,528.73	90.49	267.47	7,122.00	253.64	-1,014.24	1,002.06	9.00	9.00	0.00
<b>7</b>									
7,600.00	90.49	267.47	7,121.39	250.49	-1,085.44	1,073.33	0.00	0.00	0.00
7,700.00	90.49	267.47	7,120.54	246.08	-1,185.34	1,173.32	0.00	0.00	0.00
7,800.00	90.49	267.47	7,119.70	241.66	-1,285.24	1,273.32	0.00	0.00	0.00
7,900.00	90.49	267.47	7,118.85	237.25	-1,385.14	1,373.32	0.00	0.00	0.00
8,000.00	90.49	267.47	7,118.00	232.83	-1,485.04	1,473.31	0.00	0.00	0.00
8,100.00	90.49	267.47	7,117.15	228.42	-1,584.94	1,573.31	0.00	0.00	0.00
8,200.00	90.49	267.47	7,116.30	224.00	-1,684.84	1,673.31	0.00	0.00	0.00
8,300.00	90.49	267.47	7,115.46	219.58	-1,784.73	1,773.30	0.00	0.00	0.00
8,400.00	90.49	267.47	7,114.61	215.17	-1,884.63	1,873.30	0.00	0.00	0.00
8,500.00	90.49	267.47	7,113.76	210.75	-1,984.53	1,973.29	0.00	0.00	0.00
8,600.00	90.49	267.47	7,112.91	206.34	-2,084.43	2,073.29	0.00	0.00	0.00
8,700.00	90.49	267.47	7,112.06	201.92	-2,184.33	2,173.29	0.00	0.00	0.00
8,800.00	90.49	267.47	7,111.22	197.51	-2,284.23	2,273.28	0.00	0.00	0.00
8,900.00	90.49	267.47	7,110.37	193.09	-2,384.13	2,373.28	0.00	0.00	0.00
9,000.00	90.49	267.47	7,109.52	188.67	-2,484.03	2,473.28	0.00	0.00	0.00
9,100.00	90.49	267.47	7,108.67	184.26	-2,583.93	2,573.27	0.00	0.00	0.00
9,200.00	90.49	267.47	7,107.82	179.84	-2,683.82	2,673.27	0.00	0.00	0.00
9,300.00	90.49	267.47	7,106.98	175.43	-2,783.72	2,773.27	0.00	0.00	0.00
9,400.00	90.49	267.47	7,106.13	171.01	-2,883.62	2,873.26	0.00	0.00	0.00
9,500.00	90.49	267.47	7,105.28	166.60	-2,983.52	2,973.26	0.00	0.00	0.00
9,600.00	90.49	267.47	7,104.43	162.18	-3,083.42	3,073.26	0.00	0.00	0.00
9,700.00	90.49	267.47	7,103.58	157.77	-3,183.32	3,173.25	0.00	0.00	0.00
9,800.00	90.49	267.47	7,102.74	153.35	-3,283.22	3,273.25	0.00	0.00	0.00
9,900.00	90.49	267.47	7,101.89	148.93	-3,383.12	3,373.24	0.00	0.00	0.00
10,000.00	90.49	267.47	7,101.04	144.52	-3,483.02	3,473.24	0.00	0.00	0.00
10,100.00	90.49	267.47	7,100.19	140.10	-3,582.91	3,573.24	0.00	0.00	0.00
10,200.00	90.49	267.47	7,099.34	135.69	-3,682.81	3,673.23	0.00	0.00	0.00
10,300.00	90.49	267.47	7,098.50	131.27	-3,782.71	3,773.23	0.00	0.00	0.00
10,400.00	90.49	267.47	7,097.65	126.86	-3,882.61	3,873.23	0.00	0.00	0.00
10,500.00	90.49	267.47	7,096.80	122.44	-3,982.51	3,973.22	0.00	0.00	0.00
10,600.00	90.49	267.47	7,095.95	118.03	-4,082.41	4,073.22	0.00	0.00	0.00
10,700.00	90.49	267.47	7,095.10	113.61	-4,182.31	4,173.22	0.00	0.00	0.00
10,800.00	90.49	267.47	7,094.26	109.19	-4,282.21	4,273.21	0.00	0.00	0.00
10,900.00	90.49	267.47	7,093.41	104.78	-4,382.11	4,373.21	0.00	0.00	0.00
11,000.00	90.49	267.47	7,092.56	100.36	-4,482.00	4,473.21	0.00	0.00	0.00
11,100.00	90.49	267.47	7,091.71	95.95	-4,581.90	4,573.20	0.00	0.00	0.00
11,200.00	90.49	267.47	7,090.86	91.53	-4,681.80	4,673.20	0.00	0.00	0.00
11,300.00	90.49	267.47	7,090.02	87.12	-4,781.70	4,773.19	0.00	0.00	0.00
11,400.00	90.49	267.47	7,089.17	82.70	-4,881.60	4,873.19	0.00	0.00	0.00
11,500.00	90.49	267.47	7,088.32	78.29	-4,981.50	4,973.19	0.00	0.00	0.00
11,600.00	90.49	267.47	7,087.47	73.87	-5,081.40	5,073.18	0.00	0.00	0.00
11,700.00	90.49	267.47	7,086.62	69.45	-5,181.30	5,173.18	0.00	0.00	0.00
11,800.00	90.49	267.47	7,085.78	65.04	-5,281.20	5,273.18	0.00	0.00	0.00
11,900.00	90.49	267.47	7,084.93	60.62	-5,381.09	5,373.17	0.00	0.00	0.00
12,000.00	90.49	267.47	7,084.08	56.21	-5,480.99	5,473.17	0.00	0.00	0.00
12,100.00	90.49	267.47	7,083.23	51.79	-5,580.89	5,573.17	0.00	0.00	0.00
12,200.00	90.49	267.47	7,082.38	47.38	-5,680.79	5,673.16	0.00	0.00	0.00
12,300.00	90.49	267.47	7,081.54	42.96	-5,780.69	5,773.16	0.00	0.00	0.00
12,400.00	90.49	267.47	7,080.69	38.55	-5,880.59	5,873.15	0.00	0.00	0.00

# Precision Drilling Corporation

## Planning Report

<b>Database:</b>	Compass_Rockies	<b>Local Co-ordinate Reference:</b>	Well #13N-15HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	4935'GL+20'KB @ 4955.00usft (PD461)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	4935'GL+20'KB @ 4955.00usft (PD461)
<b>Site:</b>	3N-68W-14 Docheff 19-14HZ	<b>North Reference:</b>	True
<b>Well:</b>	#13N-15HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	DP #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,500.00	90.49	267.47	7,079.84	34.13	-5,980.49	5,973.15	0.00	0.00	0.00
12,600.00	90.49	267.47	7,078.99	29.71	-6,080.39	6,073.15	0.00	0.00	0.00
12,700.00	90.49	267.47	7,078.14	25.30	-6,180.28	6,173.14	0.00	0.00	0.00
12,800.00	90.49	267.47	7,077.30	20.88	-6,280.18	6,273.14	0.00	0.00	0.00
12,834.94	90.49	267.47	7,077.00	19.34	-6,315.09	6,308.08	0.00	0.00	0.00
8									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Surface #13N-15HZ - hit/miss target - Shape - Point	0.00	0.00	0.00	0.00	0.00	14,607,522.80	1,647,614.63	40.221856°N	104.974214°W
PBHL #13N-15HZ DP - plan hits target center - Point	0.00	0.00	7,077.00	19.34	-6,315.09	14,607,540.31	1,641,299.54	40.221907°N	104.996837°W
LP #13N-15HZ DP #1 - plan hits target center - Point	0.00	0.00	7,122.00	253.64	-1,014.24	14,607,776.15	1,646,600.32	40.222553°N	104.977848°W

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,817.06	1,800.00	9 5/8"	9.63	13.50	
12,813.63	7,077.18	5 1/2"	5.50	7.88	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
555.33	555.00	Base Fox Hills			
3,681.93	3,644.00	Parkman			
4,144.93	4,107.00	Sussex			
7,055.91	6,958.00	SSPG			
7,198.64	7,041.00	NBRR			
7,359.28	7,101.00	N470_B_CK			

# Precision Drilling Corporation

## Planning Report

<b>Database:</b>	Compass_Rockies	<b>Local Co-ordinate Reference:</b>	Well #13N-15HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	4935'GL+20'KB @ 4955.00usft (PD461)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	4935'GL+20'KB @ 4955.00usft (PD461)
<b>Site:</b>	3N-68W-14 Docheff 19-14HZ	<b>North Reference:</b>	True
<b>Well:</b>	#13N-15HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	DP #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	1
250.00	250.00	0.00	0.00	2
916.67	913.29	35.01	-46.28	3
3,023.92	2,988.53	255.74	-338.14	4
3,523.93	3,486.00	281.99	-372.85	5
6,523.33	6,485.40	281.99	-372.85	6
7,528.73	7,122.00	253.64	-1,014.24	7
12,834.94	7,077.00	19.34	-6,315.09	8