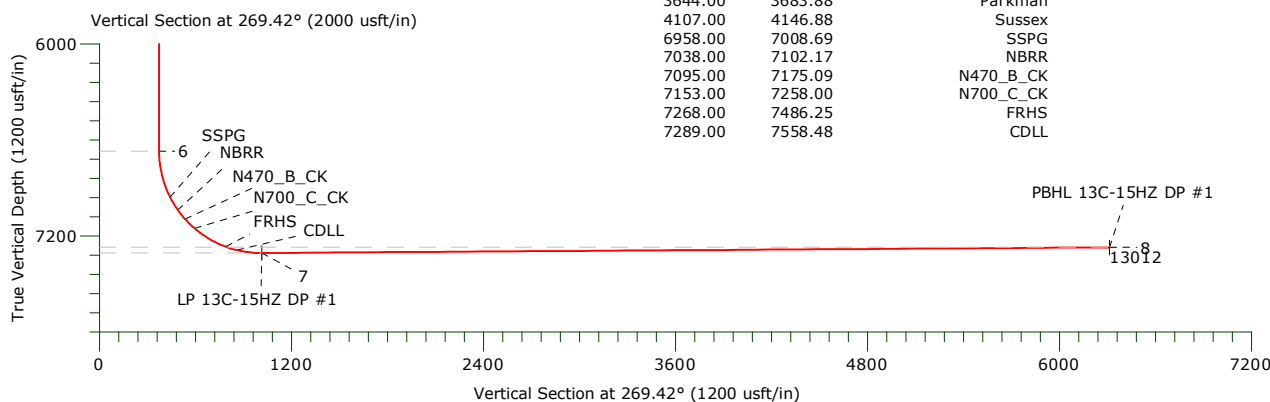
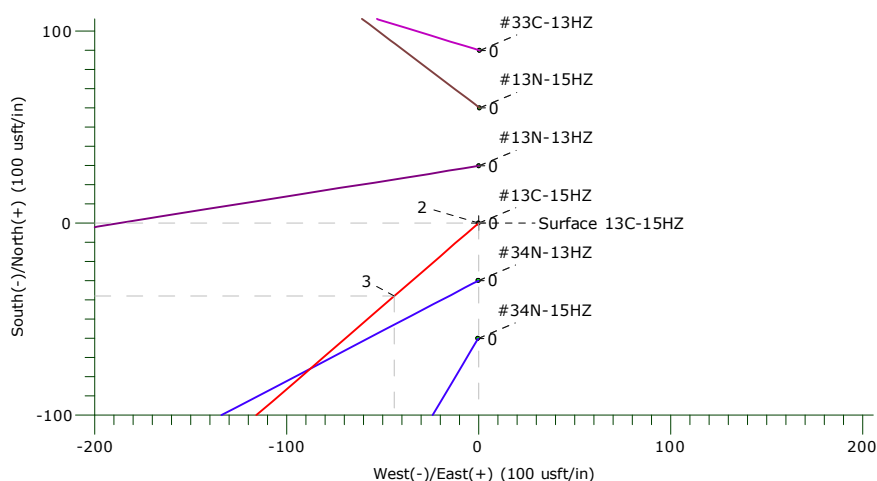
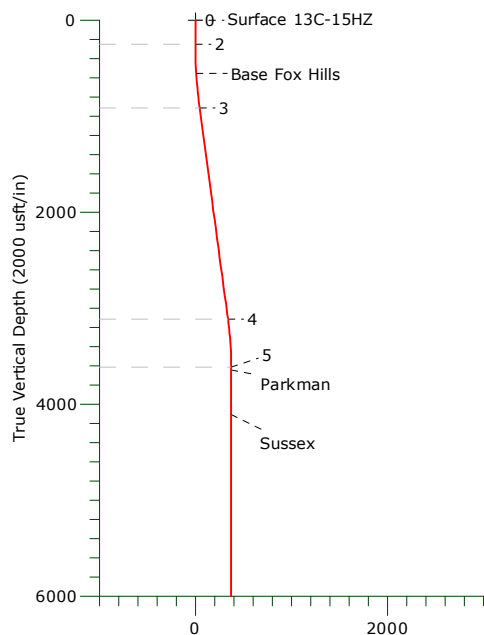
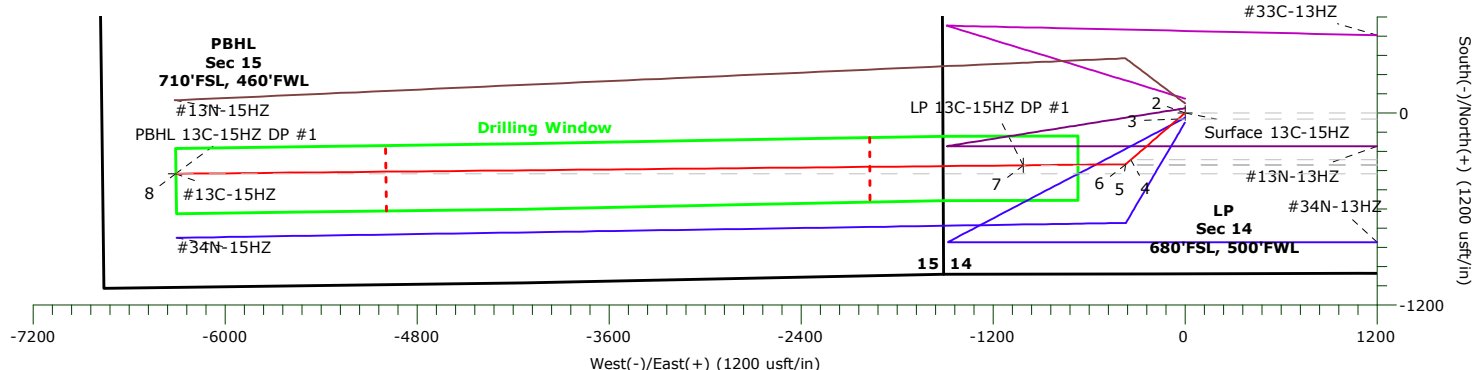




# US ROCKIES WATTENBERG PLANNING

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



## FORMATION TOP DETAILS

TVDPath	MDPath	Formation
555.00	555.33	Base Fox Hills
3644.00	3683.88	Parkman
4107.00	4146.88	Sussex
6958.00	7008.69	SSPG
7038.00	7102.17	NBRR
7095.00	7175.09	N470_B_CK
7153.00	7258.00	N700_C_CK
7268.00	7486.25	FRHS
7289.00	7558.48	CDLL

PBHL 13C-15HZ DP #1

13012

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Surface 13C-15HZ	0.00	0.00	0.00	14607462.72	1647614.09	40.221691°N	104.974216°W	Point
PBHL 13C-15HZ DP #1	7272.00	-380.30	-6308.73	14607080.59	1641305.48	40.220644°N	104.996816°W	Point
LP 13C-15HZ DP #1	7307.00	-326.96	-1011.21	14607135.47	1646602.98	40.220793°N	104.977839°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	916.61	10.00	229.13	913.23	-37.96	-43.88	1.50	229.13	44.26	
4	3152.92	10.00	229.13	3115.58	-292.04	-337.51	0.00	0.00	340.45	
5	3652.88	0.00	0.00	3613.00	-320.51	-370.42	2.00	180.00	373.65	
6	6710.27	0.00	0.00	6670.39	-320.51	-370.42	0.00	0.00	373.65	
7	7714.48	90.38	269.42	7307.00	-326.96	-1011.21	9.00	269.42	1014.47	
8	13012.38	90.38	269.42	7272.00	-380.30	-6308.73	0.00	0.00	6312.26	

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
3N-68W-14 Docheff 19-14HZ  
#13C-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 #13C-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>	#13C-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>	#13C-15HZ		
<b>Well Position</b>	<b>+N-S</b>	-89.95 usft	<b>Northing:</b> 14,607,462.72 usft
	<b>+E-W</b>	-0.56 usft	<b>Easting:</b> 1,647,614.09 usft
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b> 0.00 usft
			<b>Latitude:</b> 40.221691°N
			<b>Longitude:</b> 104.974216°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	269.42	

<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	
916.61	10.00	229.13	913.23	-37.96	-43.88	1.50	1.50	0.00	229.13	
3,152.92	10.00	229.13	3,115.58	-292.04	-337.51	0.00	0.00	0.00	0.00	
3,652.88	0.00	0.00	3,613.00	-320.51	-370.42	2.00	-2.00	0.00	180.00	
6,710.27	0.00	0.00	6,670.39	-320.51	-370.42	0.00	0.00	0.00	0.00	
7,714.48	90.38	269.42	7,307.00	-326.96	-1,011.21	9.00	9.00	-9.02	269.42	
13,012.38	90.38	269.42	7,272.00	-380.30	-6,308.73	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 #13C-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>	#13C-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	229.13	300.00	-0.21	-0.25	0.25	1.50	1.50	0.00	
400.00	2.25	229.13	399.96	-1.93	-2.23	2.25	1.50	1.50	0.00	
500.00	3.75	229.13	499.82	-5.35	-6.18	6.24	1.50	1.50	0.00	
555.33	4.58	229.13	555.00	-7.98	-9.22	9.30	1.50	1.50	0.00	
<b>Base Fox Hills</b>										
600.00	5.25	229.13	599.51	-10.48	-12.12	12.22	1.50	1.50	0.00	
700.00	6.75	229.13	698.96	-17.32	-20.02	20.20	1.50	1.50	0.00	
800.00	8.25	229.13	798.10	-25.86	-29.89	30.15	1.50	1.50	0.00	
900.00	9.75	229.13	896.87	-36.10	-41.72	42.09	1.50	1.50	0.00	
916.61	10.00	229.13	913.23	-37.96	-43.88	44.26	1.50	1.50	0.00	
<b>3</b>										
1,000.00	10.00	229.13	995.35	-47.44	-54.83	55.30	0.00	0.00	0.00	
1,100.00	10.00	229.13	1,093.84	-58.80	-67.96	68.55	0.00	0.00	0.00	
1,200.00	10.00	229.13	1,192.32	-70.16	-81.09	81.79	0.00	0.00	0.00	
1,300.00	10.00	229.13	1,290.80	-81.52	-94.22	95.04	0.00	0.00	0.00	
1,400.00	10.00	229.13	1,389.28	-92.88	-107.35	108.28	0.00	0.00	0.00	
1,500.00	10.00	229.13	1,487.76	-104.24	-120.48	121.53	0.00	0.00	0.00	
1,600.00	10.00	229.13	1,586.24	-115.61	-133.61	134.77	0.00	0.00	0.00	
1,700.00	10.00	229.13	1,684.72	-126.97	-146.74	148.02	0.00	0.00	0.00	
1,800.00	10.00	229.13	1,783.20	-138.33	-159.87	161.26	0.00	0.00	0.00	
1,900.00	10.00	229.13	1,881.68	-149.69	-173.00	174.51	0.00	0.00	0.00	
2,000.00	10.00	229.13	1,980.17	-161.05	-186.13	187.75	0.00	0.00	0.00	
2,100.00	10.00	229.13	2,078.65	-172.41	-199.26	200.99	0.00	0.00	0.00	
2,200.00	10.00	229.13	2,177.13	-183.77	-212.39	214.24	0.00	0.00	0.00	
2,300.00	10.00	229.13	2,275.61	-195.13	-225.52	227.48	0.00	0.00	0.00	
2,400.00	10.00	229.13	2,374.09	-206.50	-238.65	240.73	0.00	0.00	0.00	
2,500.00	10.00	229.13	2,472.57	-217.86	-251.78	253.97	0.00	0.00	0.00	
2,600.00	10.00	229.13	2,571.05	-229.22	-264.91	267.22	0.00	0.00	0.00	
2,700.00	10.00	229.13	2,669.53	-240.58	-278.04	280.46	0.00	0.00	0.00	
2,800.00	10.00	229.13	2,768.01	-251.94	-291.17	293.71	0.00	0.00	0.00	
2,900.00	10.00	229.13	2,866.49	-263.30	-304.30	306.95	0.00	0.00	0.00	
3,000.00	10.00	229.13	2,964.98	-274.66	-317.43	320.20	0.00	0.00	0.00	
3,100.00	10.00	229.13	3,063.46	-286.02	-330.56	333.44	0.00	0.00	0.00	
3,152.92	10.00	229.13	3,115.57	-292.04	-337.51	340.45	0.00	0.00	0.00	
<b>4</b>										
3,200.00	9.06	229.13	3,162.00	-297.14	-343.41	346.40	2.00	-2.00	0.00	
3,300.00	7.06	229.13	3,261.01	-306.31	-354.01	357.09	2.00	-2.00	0.00	
3,400.00	5.06	229.13	3,360.45	-313.21	-361.99	365.14	2.00	-2.00	0.00	
3,500.00	3.06	229.13	3,460.19	-317.84	-367.34	370.53	2.00	-2.00	0.00	
3,600.00	1.06	229.13	3,560.12	-320.19	-370.05	373.27	2.00	-2.00	0.00	
3,652.88	0.00	0.00	3,613.00	-320.51	-370.42	373.65	2.00	-2.00	247.48	
<b>5</b>										
3,683.88	0.00	0.00	3,644.00	-320.51	-370.42	373.65	0.00	0.00	0.00	
<b>Parkman</b>										
3,700.00	0.00	0.00	3,660.12	-320.51	-370.42	373.65	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,760.12	-320.51	-370.42	373.65	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,860.12	-320.51	-370.42	373.65	0.00	0.00	0.00	

# Precision Drilling Corporation

## Planning Report

<b>Database:</b>	Compass_Rockies	<b>Local Co-ordinate Reference:</b>	Well #13C-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>	#13C-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	3,960.12	-320.51	-370.42	373.65	0.00	0.00	0.00
4,100.00	0.00	0.00	4,060.12	-320.51	-370.42	373.65	0.00	0.00	0.00
4,146.88	0.00	0.00	4,107.00	-320.51	-370.42	373.65	0.00	0.00	0.00
<b>Sussex</b>									
4,200.00	0.00	0.00	4,160.12	-320.51	-370.42	373.65	0.00	0.00	0.00
4,300.00	0.00	0.00	4,260.12	-320.51	-370.42	373.65	0.00	0.00	0.00
4,400.00	0.00	0.00	4,360.12	-320.51	-370.42	373.65	0.00	0.00	0.00
4,500.00	0.00	0.00	4,460.12	-320.51	-370.42	373.65	0.00	0.00	0.00
4,600.00	0.00	0.00	4,560.12	-320.51	-370.42	373.65	0.00	0.00	0.00
4,700.00	0.00	0.00	4,660.12	-320.51	-370.42	373.65	0.00	0.00	0.00
4,800.00	0.00	0.00	4,760.12	-320.51	-370.42	373.65	0.00	0.00	0.00
4,900.00	0.00	0.00	4,860.12	-320.51	-370.42	373.65	0.00	0.00	0.00
5,000.00	0.00	0.00	4,960.12	-320.51	-370.42	373.65	0.00	0.00	0.00
5,100.00	0.00	0.00	5,060.12	-320.51	-370.42	373.65	0.00	0.00	0.00
5,200.00	0.00	0.00	5,160.12	-320.51	-370.42	373.65	0.00	0.00	0.00
5,300.00	0.00	0.00	5,260.12	-320.51	-370.42	373.65	0.00	0.00	0.00
5,400.00	0.00	0.00	5,360.12	-320.51	-370.42	373.65	0.00	0.00	0.00
5,500.00	0.00	0.00	5,460.12	-320.51	-370.42	373.65	0.00	0.00	0.00
5,600.00	0.00	0.00	5,560.12	-320.51	-370.42	373.65	0.00	0.00	0.00
5,700.00	0.00	0.00	5,660.12	-320.51	-370.42	373.65	0.00	0.00	0.00
5,800.00	0.00	0.00	5,760.12	-320.51	-370.42	373.65	0.00	0.00	0.00
5,900.00	0.00	0.00	5,860.12	-320.51	-370.42	373.65	0.00	0.00	0.00
6,000.00	0.00	0.00	5,960.12	-320.51	-370.42	373.65	0.00	0.00	0.00
6,100.00	0.00	0.00	6,060.12	-320.51	-370.42	373.65	0.00	0.00	0.00
6,200.00	0.00	0.00	6,160.12	-320.51	-370.42	373.65	0.00	0.00	0.00
6,300.00	0.00	0.00	6,260.12	-320.51	-370.42	373.65	0.00	0.00	0.00
6,400.00	0.00	0.00	6,360.12	-320.51	-370.42	373.65	0.00	0.00	0.00
6,500.00	0.00	0.00	6,460.12	-320.51	-370.42	373.65	0.00	0.00	0.00
6,600.00	0.00	0.00	6,560.12	-320.51	-370.42	373.65	0.00	0.00	0.00
6,700.00	0.00	0.00	6,660.12	-320.51	-370.42	373.65	0.00	0.00	0.00
6,710.27	0.00	0.00	6,670.39	-320.51	-370.42	373.65	0.00	0.00	0.00
<b>6</b>									
6,750.00	3.58	269.42	6,710.09	-320.52	-371.66	374.88	9.00	9.00	0.00
6,800.00	8.08	269.42	6,759.82	-320.57	-376.73	379.96	9.00	9.00	0.00
6,850.00	12.58	269.42	6,809.00	-320.66	-385.69	388.92	9.00	9.00	0.00
6,900.00	17.08	269.42	6,857.32	-320.79	-398.48	401.71	9.00	9.00	0.00
6,950.00	21.58	269.42	6,904.49	-320.96	-415.02	418.25	9.00	9.00	0.00
7,000.00	26.08	269.42	6,950.22	-321.16	-435.22	438.44	9.00	9.00	0.00
7,008.69	26.86	269.42	6,958.00	-321.20	-439.09	442.32	9.00	9.00	0.00
<b>SSPG</b>									
7,050.00	30.58	269.42	6,994.22	-321.40	-458.93	462.16	9.00	9.00	0.00
7,100.00	35.08	269.42	7,036.23	-321.67	-486.03	489.26	9.00	9.00	0.00
7,102.17	35.27	269.42	7,038.00	-321.69	-487.28	490.51	9.00	9.00	0.00
<b>NBRR</b>									
7,150.00	39.58	269.42	7,075.98	-321.98	-516.34	519.57	9.00	9.00	0.00
7,175.09	41.83	269.42	7,095.00	-322.14	-532.70	535.93	9.00	9.00	0.00
<b>N470_B_CK</b>									
7,200.00	44.08	269.42	7,113.23	-322.31	-549.67	552.90	9.00	9.00	0.00
7,250.00	48.58	269.42	7,147.75	-322.68	-585.82	589.06	9.00	9.00	0.00
7,258.00	49.30	269.42	7,153.00	-322.74	-591.85	595.09	9.00	9.00	0.00
<b>N700_C_CK</b>									
7,300.00	53.08	269.42	7,179.32	-323.07	-624.57	627.81	9.00	9.00	0.00
7,350.00	57.58	269.42	7,207.76	-323.48	-665.68	668.92	9.00	9.00	0.00

# Precision Drilling Corporation

## Planning Report

<b>Database:</b>	Compass_Rockies	<b>Local Co-ordinate Reference:</b>	Well #13C-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>	#13C-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)
7,400.00	62.08	269.42	7,232.89	-323.92	-708.89	712.13	9.00	9.00	0.00
7,450.00	66.58	269.42	7,254.54	-324.37	-753.94	757.18	9.00	9.00	0.00
7,486.25	69.84	269.42	7,268.00	-324.71	-787.59	790.84	9.00	9.00	0.00
<b>FRHS</b>									
7,500.00	71.08	269.42	7,272.60	-324.84	-800.55	803.80	9.00	9.00	0.00
7,550.00	75.58	269.42	7,286.94	-325.32	-848.43	851.68	9.00	9.00	0.00
7,558.48	76.34	269.42	7,289.00	-325.41	-856.66	859.91	9.00	9.00	0.00
<b>CDLL</b>									
7,600.00	80.08	269.42	7,297.48	-325.81	-897.29	900.54	9.00	9.00	0.00
7,650.00	84.58	269.42	7,304.16	-326.31	-946.83	950.08	9.00	9.00	0.00
7,700.00	89.08	269.42	7,306.93	-326.82	-996.74	999.99	9.00	9.00	0.00
7,714.48	90.38	269.42	7,307.00	-326.96	-1,011.22	1,014.47	9.00	9.00	0.00
<b>7</b>									
7,800.00	90.38	269.42	7,306.43	-327.82	-1,096.73	1,099.99	0.00	0.00	0.00
7,900.00	90.38	269.42	7,305.77	-328.83	-1,196.72	1,199.99	0.00	0.00	0.00
8,000.00	90.38	269.42	7,305.11	-329.84	-1,296.72	1,299.99	0.00	0.00	0.00
8,100.00	90.38	269.42	7,304.45	-330.84	-1,396.71	1,399.99	0.00	0.00	0.00
8,200.00	90.38	269.42	7,303.79	-331.85	-1,496.70	1,499.98	0.00	0.00	0.00
8,300.00	90.38	269.42	7,303.13	-332.86	-1,596.69	1,599.98	0.00	0.00	0.00
8,400.00	90.38	269.42	7,302.47	-333.86	-1,696.69	1,699.98	0.00	0.00	0.00
8,500.00	90.38	269.42	7,301.81	-334.87	-1,796.68	1,799.98	0.00	0.00	0.00
8,600.00	90.38	269.42	7,301.15	-335.88	-1,896.67	1,899.97	0.00	0.00	0.00
8,700.00	90.38	269.42	7,300.49	-336.88	-1,996.66	1,999.97	0.00	0.00	0.00
8,800.00	90.38	269.42	7,299.83	-337.89	-2,096.66	2,099.97	0.00	0.00	0.00
8,900.00	90.38	269.42	7,299.16	-338.90	-2,196.65	2,199.97	0.00	0.00	0.00
9,000.00	90.38	269.42	7,298.50	-339.90	-2,296.64	2,299.97	0.00	0.00	0.00
9,100.00	90.38	269.42	7,297.84	-340.91	-2,396.64	2,399.96	0.00	0.00	0.00
9,200.00	90.38	269.42	7,297.18	-341.92	-2,496.63	2,499.96	0.00	0.00	0.00
9,300.00	90.38	269.42	7,296.52	-342.92	-2,596.62	2,599.96	0.00	0.00	0.00
9,400.00	90.38	269.42	7,295.86	-343.93	-2,696.61	2,699.96	0.00	0.00	0.00
9,500.00	90.38	269.42	7,295.20	-344.94	-2,796.61	2,799.95	0.00	0.00	0.00
9,600.00	90.38	269.42	7,294.54	-345.94	-2,896.60	2,899.95	0.00	0.00	0.00
9,700.00	90.38	269.42	7,293.88	-346.95	-2,996.59	2,999.95	0.00	0.00	0.00
9,800.00	90.38	269.42	7,293.22	-347.96	-3,096.58	3,099.95	0.00	0.00	0.00
9,900.00	90.38	269.42	7,292.56	-348.97	-3,196.58	3,199.95	0.00	0.00	0.00
10,000.00	90.38	269.42	7,291.90	-349.97	-3,296.57	3,299.94	0.00	0.00	0.00
10,100.00	90.38	269.42	7,291.24	-350.98	-3,396.56	3,399.94	0.00	0.00	0.00
10,200.00	90.38	269.42	7,290.58	-351.99	-3,496.56	3,499.94	0.00	0.00	0.00
10,300.00	90.38	269.42	7,289.92	-352.99	-3,596.55	3,599.94	0.00	0.00	0.00
10,400.00	90.38	269.42	7,289.26	-354.00	-3,696.54	3,699.94	0.00	0.00	0.00
10,500.00	90.38	269.42	7,288.60	-355.01	-3,796.53	3,799.93	0.00	0.00	0.00
10,600.00	90.38	269.42	7,287.94	-356.01	-3,896.53	3,899.93	0.00	0.00	0.00
10,700.00	90.38	269.42	7,287.27	-357.02	-3,996.52	3,999.93	0.00	0.00	0.00
10,800.00	90.38	269.42	7,286.61	-358.03	-4,096.51	4,099.93	0.00	0.00	0.00
10,900.00	90.38	269.42	7,285.95	-359.03	-4,196.50	4,199.92	0.00	0.00	0.00
11,000.00	90.38	269.42	7,285.29	-360.04	-4,296.50	4,299.92	0.00	0.00	0.00
11,100.00	90.38	269.42	7,284.63	-361.05	-4,396.49	4,399.92	0.00	0.00	0.00
11,200.00	90.38	269.42	7,283.97	-362.05	-4,496.48	4,499.92	0.00	0.00	0.00
11,300.00	90.38	269.42	7,283.31	-363.06	-4,596.48	4,599.92	0.00	0.00	0.00
11,400.00	90.38	269.42	7,282.65	-364.07	-4,696.47	4,699.91	0.00	0.00	0.00
11,500.00	90.38	269.42	7,281.99	-365.07	-4,796.46	4,799.91	0.00	0.00	0.00
11,600.00	90.38	269.42	7,281.33	-366.08	-4,896.45	4,899.91	0.00	0.00	0.00
11,700.00	90.38	269.42	7,280.67	-367.09	-4,996.45	4,999.91	0.00	0.00	0.00

# Precision Drilling Corporation

## Planning Report

<b>Database:</b>	Compass_Rockies	<b>Local Co-ordinate Reference:</b>	Well #13C-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>	#13C-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)	
11,800.00	90.38	269.42	7,280.01	-368.09	-5,096.44	5,099.90	0.00	0.00	0.00	
11,900.00	90.38	269.42	7,279.35	-369.10	-5,196.43	5,199.90	0.00	0.00	0.00	
12,000.00	90.38	269.42	7,278.69	-370.11	-5,296.43	5,299.90	0.00	0.00	0.00	
12,100.00	90.38	269.42	7,278.03	-371.11	-5,396.42	5,399.90	0.00	0.00	0.00	
12,200.00	90.38	269.42	7,277.37	-372.12	-5,496.41	5,499.90	0.00	0.00	0.00	
12,300.00	90.38	269.42	7,276.71	-373.13	-5,596.40	5,599.89	0.00	0.00	0.00	
12,400.00	90.38	269.42	7,276.05	-374.13	-5,696.40	5,699.89	0.00	0.00	0.00	
12,500.00	90.38	269.42	7,275.38	-375.14	-5,796.39	5,799.89	0.00	0.00	0.00	
12,600.00	90.38	269.42	7,274.72	-376.15	-5,896.38	5,899.89	0.00	0.00	0.00	
12,700.00	90.38	269.42	7,274.06	-377.16	-5,996.37	5,999.89	0.00	0.00	0.00	
12,800.00	90.38	269.42	7,273.40	-378.16	-6,096.37	6,099.88	0.00	0.00	0.00	
12,900.00	90.38	269.42	7,272.74	-379.17	-6,196.36	6,199.88	0.00	0.00	0.00	
13,000.00	90.38	269.42	7,272.08	-380.18	-6,296.35	6,299.88	0.00	0.00	0.00	
13,012.38	90.38	269.42	7,272.00	-380.30	-6,308.73	6,312.26	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 13C-15HZ - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,607,462.72	1,647,614.09	40.221691°N	104.974216°W	
PBHL 13C-15HZ DP #1 - plan hits target center - Point	0.00	0.00	7,272.00	-380.30	-6,308.73	14,607,080.58	1,641,305.47	40.220645°N	104.996816°W	
LP 13C-15HZ DP #1 - plan hits target center - Point	0.00	0.00	7,307.00	-326.96	-1,011.21	14,607,135.46	1,646,602.97	40.220793°N	104.977839°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	
12,998.56	7,272.09	5 1/2"	5.50	7.88	

# Precision Drilling Corporation

## Planning Report

<b>Database:</b>	Compass_Rockies	<b>Local Co-ordinate Reference:</b>	Well #13C-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>	#13C-15HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	DP #1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
555.33	555.00	Base Fox Hills			
3,683.88	3,644.00	Parkman			
4,146.88	4,107.00	Sussex			
7,008.69	6,958.00	SSPG			
7,102.17	7,038.00	NBRR			
7,175.09	7,095.00	N470_B_CK			
7,258.00	7,153.00	N700_C_CK			
7,486.25	7,268.00	FRHS			
7,558.48	7,289.00	CDLL			

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
916.61	913.23	-37.96	-43.88	3
3,152.92	3,115.57	-292.04	-337.51	4
3,652.88	3,613.00	-320.51	-370.42	5
6,710.27	6,670.39	-320.51	-370.42	6
7,714.48	7,307.00	-326.96	-1,011.22	7
13,012.38	7,272.00	-380.30	-6,308.73	8