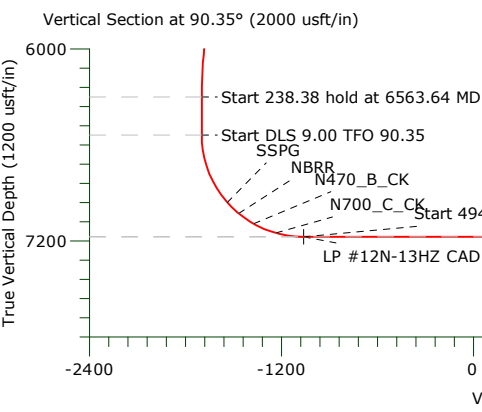
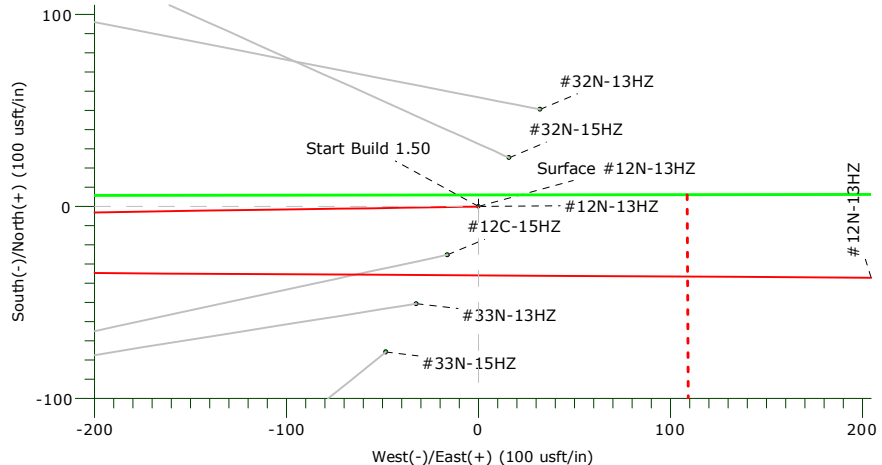
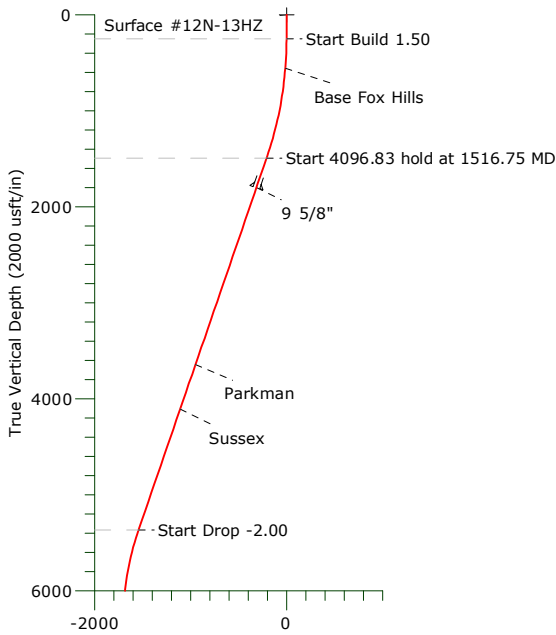
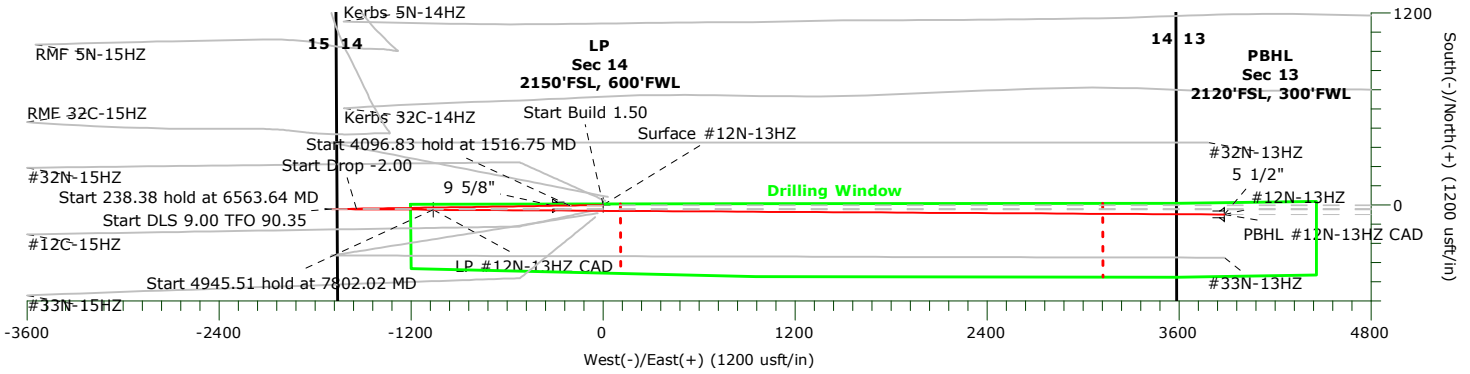




US ROCKIES WATTENBERG PLANNING

Project: WELD-NAD83-UTMFT13N
 Site: 3N-68W-15 Docheff 11-14HZ
 Well: #12N-13HZ
 Wellbore: Original Hole
 Design: DP #1



CASING DETAILS				FORMATION TOP DETAILS			
TVD	MD	Name	Size	TVDPath	MDPath	Formation	
1800.00	1840.75	9 5/8"	9.62	554.00	554.32	Base Fox Hills	
7175.00	12747.53	5 1/2"	5.50	3643.00	3789.96	Parkman	
				4106.00	4279.64	Sussex	
				6961.00	7264.18	SSPG	
				7029.00	7362.17	NBRR	
				7094.00	7477.37	N470_B_CK	
				7151.00	7626.66	N700_C_CK	

Vertical Section at 90.35° (1200 usft/in)

WELLBORE TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
Surface #12N-13HZ	0.00	0.00	0.00	14608635.34	1647756.11	40.224911°N	104.973706°W	Point	
LP #12N-13HZ CAD	7175.00	-29.41	-1061.31	14608605.62	1646694.81	40.224830°N	104.977508°W	Point	
PBHL #12N-13HZ CAD	7175.00	-59.42	3884.10	14608577.08	1651640.23	40.224747°N	104.959791°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	1516.75	19.00	269.14	1493.66	-3.13	-208.11	1.50	269.14	-208.08	
4	5613.58	19.00	269.14	5367.26	-23.19	-1541.84	0.00	0.00	-1541.67	
5	6563.64	0.00	0.00	6300.00	-25.54	-1697.92	2.00	180.00	-1697.73	
6	6802.02	0.00	0.00	6538.38	-25.54	-1697.92	0.00	0.00	-1697.73	
7	7802.02	90.00	90.35	7175.00	-29.41	-1061.31	9.00	90.35	-1061.11	
8	12747.53	90.00	90.35	7175.00	-59.42	3884.10	0.00	0.00	3884.39	PBHL #12N-13HZ CAD

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
3N-68W-15 Docheff 11-14HZ
#12N-13HZ**

Original Hole

Plan: DP #1

Standard Planning Report

24 February, 2016

Precision Drilling Corporation

Planning Report

Database:	Compass_US	Local Co-ordinate Reference:	Well #12N-13HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	4934'GL+20'KB @ 4954.00usft (PD461)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	4934'GL+20'KB @ 4954.00usft (PD461)
Site:	3N-68W-15 Docheff 11-14HZ	North Reference:	True
Well:	#12N-13HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	DP #1		

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

Site	3N-68W-15 Docheff 11-14HZ		
Site Position:		Northing:	14,608,685.96 usft
From:	Lat/Long	Easting:	1,647,788.19 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	40.225050°N
		Longitude:	104.973591°W
		Grid Convergence:	0.02 °

Well	#12N-13HZ		
Well Position	+N-S	-50.62 usft	Northing: 14,608,635.34 usft
	+E-W	-32.10 usft	Easting: 1,647,756.11 usft
Position Uncertainty		3.28 usft	Wellhead Elevation: 0.00 usft
			Latitude: 40.224911°N
			Longitude: 104.973706°W
			Ground Level: 4,934.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	03/01/16	8.44	66.71	52,425

Design	DP #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.00	0.00	0.00	90.35

Plan Sections										
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	
1,516.75	19.00	269.14	1,493.66	-3.13	-208.11	1.50	1.50	0.00	269.14	
5,613.58	19.00	269.14	5,367.26	-23.19	-1,541.84	0.00	0.00	0.00	0.00	
6,563.64	0.00	0.00	6,300.00	-25.54	-1,697.92	2.00	-2.00	0.00	180.00	
6,802.02	0.00	0.00	6,538.38	-25.54	-1,697.92	0.00	0.00	0.00	0.00	
7,802.02	90.00	90.35	7,175.00	-29.41	-1,061.31	9.00	9.00	9.03	90.35	
12,747.53	90.00	90.35	7,175.00	-59.42	3,884.10	0.00	0.00	0.00	0.00	PBHL #12N-13HZ (

Precision Drilling Corporation

Planning Report

Database:	Compass_US	Local Co-ordinate Reference:	Well #12N-13HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	4934'GL+20'KB @ 4954.00usft (PD461)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	4934'GL+20'KB @ 4954.00usft (PD461)
Site:	3N-68W-15 Docheff 11-14HZ	North Reference:	True
Well:	#12N-13HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	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	0.00
Surface #12N-13HZ										
100.00	0.00	0.00	100.00	0.00	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	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.75	269.14	300.00	0.00	-0.33	-0.33	1.50	1.50	0.00	0.00
400.00	2.25	269.14	399.96	-0.04	-2.94	-2.94	1.50	1.50	0.00	0.00
500.00	3.75	269.14	499.82	-0.12	-8.18	-8.18	1.50	1.50	0.00	0.00
554.32	4.56	269.14	554.00	-0.18	-12.12	-12.11	1.50	1.50	0.00	0.00
Base Fox Hills										
600.00	5.25	269.14	599.51	-0.24	-16.02	-16.02	1.50	1.50	0.00	0.00
700.00	6.75	269.14	698.96	-0.40	-26.47	-26.47	1.50	1.50	0.00	0.00
800.00	8.25	269.14	798.10	-0.59	-39.52	-39.52	1.50	1.50	0.00	0.00
900.00	9.75	269.14	896.87	-0.83	-55.17	-55.16	1.50	1.50	0.00	0.00
1,000.00	11.25	269.14	995.19	-1.10	-73.39	-73.38	1.50	1.50	0.00	0.00
1,100.00	12.75	269.14	1,093.00	-1.42	-94.17	-94.16	1.50	1.50	0.00	0.00
1,200.00	14.25	269.14	1,190.24	-1.77	-117.52	-117.50	1.50	1.50	0.00	0.00
1,300.00	15.75	269.14	1,286.83	-2.16	-143.39	-143.38	1.50	1.50	0.00	0.00
1,400.00	17.25	269.14	1,382.71	-2.58	-171.79	-171.77	1.50	1.50	0.00	0.00
1,500.00	18.75	269.14	1,477.81	-3.05	-202.69	-202.67	1.50	1.50	0.00	0.00
1,516.75	19.00	269.14	1,493.66	-3.13	-208.11	-208.08	1.50	1.50	0.00	0.00
1,600.00	19.00	269.14	1,572.37	-3.54	-235.21	-235.18	0.00	0.00	0.00	0.00
1,700.00	19.00	269.14	1,666.92	-4.03	-267.76	-267.74	0.00	0.00	0.00	0.00
1,800.00	19.00	269.14	1,761.47	-4.52	-300.32	-300.29	0.00	0.00	0.00	0.00
1,840.75	19.00	269.14	1,800.00	-4.72	-313.59	-313.55	0.00	0.00	0.00	0.00
9 5/8"										
1,900.00	19.00	269.14	1,856.02	-5.01	-332.88	-332.84	0.00	0.00	0.00	0.00
2,000.00	19.00	269.14	1,950.58	-5.50	-365.43	-365.39	0.00	0.00	0.00	0.00
2,100.00	19.00	269.14	2,045.13	-5.99	-397.99	-397.94	0.00	0.00	0.00	0.00
2,200.00	19.00	269.14	2,139.68	-6.48	-430.54	-430.49	0.00	0.00	0.00	0.00
2,300.00	19.00	269.14	2,234.23	-6.97	-463.10	-463.05	0.00	0.00	0.00	0.00
2,400.00	19.00	269.14	2,328.78	-7.46	-495.65	-495.60	0.00	0.00	0.00	0.00
2,500.00	19.00	269.14	2,423.33	-7.95	-528.21	-528.15	0.00	0.00	0.00	0.00
2,600.00	19.00	269.14	2,517.88	-8.44	-560.76	-560.70	0.00	0.00	0.00	0.00
2,700.00	19.00	269.14	2,612.43	-8.93	-593.32	-593.25	0.00	0.00	0.00	0.00
2,800.00	19.00	269.14	2,706.98	-9.42	-625.87	-625.80	0.00	0.00	0.00	0.00
2,900.00	19.00	269.14	2,801.54	-9.91	-658.43	-658.35	0.00	0.00	0.00	0.00
3,000.00	19.00	269.14	2,896.09	-10.39	-690.98	-690.91	0.00	0.00	0.00	0.00
3,100.00	19.00	269.14	2,990.64	-10.88	-723.54	-723.46	0.00	0.00	0.00	0.00
3,200.00	19.00	269.14	3,085.19	-11.37	-756.09	-756.01	0.00	0.00	0.00	0.00
3,300.00	19.00	269.14	3,179.74	-11.86	-788.65	-788.56	0.00	0.00	0.00	0.00
3,400.00	19.00	269.14	3,274.29	-12.35	-821.20	-821.11	0.00	0.00	0.00	0.00
3,500.00	19.00	269.14	3,368.84	-12.84	-853.76	-853.66	0.00	0.00	0.00	0.00
3,600.00	19.00	269.14	3,463.39	-13.33	-886.31	-886.22	0.00	0.00	0.00	0.00
3,700.00	19.00	269.14	3,557.95	-13.82	-918.87	-918.77	0.00	0.00	0.00	0.00
3,789.96	19.00	269.14	3,643.00	-14.26	-948.16	-948.05	0.00	0.00	0.00	0.00
Parkman										
3,800.00	19.00	269.14	3,652.50	-14.31	-951.43	-951.32	0.00	0.00	0.00	0.00
3,900.00	19.00	269.14	3,747.05	-14.80	-983.98	-983.87	0.00	0.00	0.00	0.00
4,000.00	19.00	269.14	3,841.60	-15.29	-1,016.54	-1,016.42	0.00	0.00	0.00	0.00
4,100.00	19.00	269.14	3,936.15	-15.78	-1,049.09	-1,048.97	0.00	0.00	0.00	0.00
4,200.00	19.00	269.14	4,030.70	-16.27	-1,081.65	-1,081.53	0.00	0.00	0.00	0.00
4,279.64	19.00	269.14	4,106.00	-16.66	-1,107.57	-1,107.45	0.00	0.00	0.00	0.00
Sussex										

Precision Drilling Corporation

Planning Report

Database:	Compass_US	Local Co-ordinate Reference:	Well #12N-13HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	4934'GL+20'KB @ 4954.00usft (PD461)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	4934'GL+20'KB @ 4954.00usft (PD461)
Site:	3N-68W-15 Docheff 11-14HZ	North Reference:	True
Well:	#12N-13HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	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)
4,300.00	19.00	269.14	4,125.25	-16.76	-1,114.20	-1,114.08	0.00	0.00	0.00
4,400.00	19.00	269.14	4,219.80	-17.25	-1,146.76	-1,146.63	0.00	0.00	0.00
4,500.00	19.00	269.14	4,314.35	-17.74	-1,179.31	-1,179.18	0.00	0.00	0.00
4,600.00	19.00	269.14	4,408.91	-18.23	-1,211.87	-1,211.73	0.00	0.00	0.00
4,700.00	19.00	269.14	4,503.46	-18.72	-1,244.42	-1,244.28	0.00	0.00	0.00
4,800.00	19.00	269.14	4,598.01	-19.21	-1,276.98	-1,276.84	0.00	0.00	0.00
4,900.00	19.00	269.14	4,692.56	-19.70	-1,309.53	-1,309.39	0.00	0.00	0.00
5,000.00	19.00	269.14	4,787.11	-20.19	-1,342.09	-1,341.94	0.00	0.00	0.00
5,100.00	19.00	269.14	4,881.66	-20.68	-1,374.64	-1,374.49	0.00	0.00	0.00
5,200.00	19.00	269.14	4,976.21	-21.17	-1,407.20	-1,407.04	0.00	0.00	0.00
5,300.00	19.00	269.14	5,070.76	-21.66	-1,439.75	-1,439.59	0.00	0.00	0.00
5,400.00	19.00	269.14	5,165.31	-22.15	-1,472.31	-1,472.15	0.00	0.00	0.00
5,500.00	19.00	269.14	5,259.87	-22.64	-1,504.86	-1,504.70	0.00	0.00	0.00
5,600.00	19.00	269.14	5,354.42	-23.13	-1,537.42	-1,537.25	0.00	0.00	0.00
5,613.58	19.00	269.14	5,367.26	-23.19	-1,541.84	-1,541.67	0.00	0.00	0.00
5,700.00	17.27	269.14	5,449.38	-23.60	-1,568.74	-1,568.56	2.00	-2.00	0.00
5,800.00	15.27	269.14	5,545.37	-24.02	-1,596.75	-1,596.58	2.00	-2.00	0.00
5,900.00	13.27	269.14	5,642.28	-24.39	-1,621.40	-1,621.23	2.00	-2.00	0.00
6,000.00	11.27	269.14	5,739.99	-24.71	-1,642.66	-1,642.48	2.00	-2.00	0.00
6,100.00	9.27	269.14	5,838.38	-24.98	-1,660.49	-1,660.31	2.00	-2.00	0.00
6,200.00	7.27	269.14	5,937.33	-25.20	-1,674.88	-1,674.69	2.00	-2.00	0.00
6,300.00	5.27	269.14	6,036.73	-25.36	-1,685.80	-1,685.61	2.00	-2.00	0.00
6,400.00	3.27	269.14	6,136.45	-25.47	-1,693.25	-1,693.06	2.00	-2.00	0.00
6,500.00	1.27	269.14	6,236.36	-25.53	-1,697.21	-1,697.03	2.00	-2.00	0.00
6,563.64	0.00	0.00	6,300.00	-25.54	-1,697.92	-1,697.73	2.00	-2.00	0.00
6,600.00	0.00	0.00	6,336.36	-25.54	-1,697.92	-1,697.73	0.00	0.00	0.00
6,700.00	0.00	0.00	6,436.36	-25.54	-1,697.92	-1,697.73	0.00	0.00	0.00
6,802.02	0.00	0.00	6,538.38	-25.54	-1,697.92	-1,697.73	0.00	0.00	0.00
6,850.00	4.32	90.35	6,586.31	-25.55	-1,696.11	-1,695.93	9.00	9.00	0.00
6,900.00	8.82	90.35	6,635.97	-25.59	-1,690.40	-1,690.21	9.00	9.00	0.00
6,950.00	13.32	90.35	6,685.03	-25.65	-1,680.80	-1,680.61	9.00	9.00	0.00
7,000.00	17.82	90.35	6,733.18	-25.73	-1,667.39	-1,667.20	9.00	9.00	0.00
7,050.00	22.32	90.35	6,780.13	-25.83	-1,650.23	-1,650.04	9.00	9.00	0.00
7,100.00	26.82	90.35	6,825.60	-25.96	-1,629.45	-1,629.26	9.00	9.00	0.00
7,150.00	31.32	90.35	6,869.29	-26.11	-1,605.16	-1,604.98	9.00	9.00	0.00
7,200.00	35.82	90.35	6,910.94	-26.27	-1,577.53	-1,577.34	9.00	9.00	0.00
7,250.00	40.32	90.35	6,950.29	-26.46	-1,546.70	-1,546.51	9.00	9.00	0.00
7,264.18	41.59	90.35	6,961.00	-26.52	-1,537.41	-1,537.22	9.00	9.00	0.00
SSPG									
7,300.00	44.82	90.35	6,987.11	-26.67	-1,512.89	-1,512.70	9.00	9.00	0.00
7,350.00	49.32	90.35	7,021.15	-26.89	-1,476.29	-1,476.10	9.00	9.00	0.00
7,362.17	50.41	90.35	7,029.00	-26.94	-1,466.99	-1,466.79	9.00	9.00	0.00
NBRR									
7,400.00	53.82	90.35	7,052.22	-27.13	-1,437.14	-1,436.94	9.00	9.00	0.00
7,450.00	58.32	90.35	7,080.13	-27.38	-1,395.66	-1,395.47	9.00	9.00	0.00
7,477.37	60.78	90.35	7,094.00	-27.52	-1,372.07	-1,371.87	9.00	9.00	0.00
N470_B_CK									
7,500.00	62.82	90.35	7,104.69	-27.64	-1,352.13	-1,351.93	9.00	9.00	0.00
7,550.00	67.32	90.35	7,125.76	-27.92	-1,306.80	-1,306.61	9.00	9.00	0.00
7,600.00	71.82	90.35	7,143.21	-28.20	-1,259.96	-1,259.76	9.00	9.00	0.00
7,626.66	74.22	90.35	7,151.00	-28.36	-1,234.46	-1,234.27	9.00	9.00	0.00
N700_C_CK									
7,650.00	76.32	90.35	7,156.93	-28.49	-1,211.89	-1,211.70	9.00	9.00	0.00

Precision Drilling Corporation

Planning Report

Database:	Compass_US	Local Co-ordinate Reference:	Well #12N-13HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	4934'GL+20'KB @ 4954.00usft (PD461)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	4934'GL+20'KB @ 4954.00usft (PD461)
Site:	3N-68W-15 Docheff 11-14HZ	North Reference:	True
Well:	#12N-13HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	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)	
7,700.00	80.82	90.35	7,166.84	-28.79	-1,162.90	-1,162.70	9.00	9.00	0.00	
7,750.00	85.32	90.35	7,172.88	-29.09	-1,113.28	-1,113.08	9.00	9.00	0.00	
7,802.02	90.00	90.35	7,175.00	-29.41	-1,061.31	-1,061.11	9.00	9.00	0.00	
LP #12N-13HZ CAD										
7,900.00	90.00	90.35	7,175.00	-30.00	-963.34	-963.14	0.00	0.00	0.00	
8,000.00	90.00	90.35	7,175.00	-30.61	-863.34	-863.14	0.00	0.00	0.00	
8,100.00	90.00	90.35	7,175.00	-31.21	-763.34	-763.14	0.00	0.00	0.00	
8,200.00	90.00	90.35	7,175.00	-31.82	-663.34	-663.14	0.00	0.00	0.00	
8,300.00	90.00	90.35	7,175.00	-32.43	-563.34	-563.14	0.00	0.00	0.00	
8,400.00	90.00	90.35	7,175.00	-33.03	-463.35	-463.14	0.00	0.00	0.00	
8,500.00	90.00	90.35	7,175.00	-33.64	-363.35	-363.14	0.00	0.00	0.00	
8,600.00	90.00	90.35	7,175.00	-34.25	-263.35	-263.14	0.00	0.00	0.00	
8,700.00	90.00	90.35	7,175.00	-34.86	-163.35	-163.14	0.00	0.00	0.00	
8,800.00	90.00	90.35	7,175.00	-35.46	-63.35	-63.14	0.00	0.00	0.00	
8,900.00	90.00	90.35	7,175.00	-36.07	36.64	36.86	0.00	0.00	0.00	
9,000.00	90.00	90.35	7,175.00	-36.68	136.64	136.86	0.00	0.00	0.00	
9,100.00	90.00	90.35	7,175.00	-37.28	236.64	236.86	0.00	0.00	0.00	
9,200.00	90.00	90.35	7,175.00	-37.89	336.64	336.86	0.00	0.00	0.00	
9,300.00	90.00	90.35	7,175.00	-38.50	436.64	436.86	0.00	0.00	0.00	
9,400.00	90.00	90.35	7,175.00	-39.10	536.63	536.86	0.00	0.00	0.00	
9,500.00	90.00	90.35	7,175.00	-39.71	636.63	636.86	0.00	0.00	0.00	
9,600.00	90.00	90.35	7,175.00	-40.32	736.63	736.86	0.00	0.00	0.00	
9,700.00	90.00	90.35	7,175.00	-40.92	836.63	836.86	0.00	0.00	0.00	
9,800.00	90.00	90.35	7,175.00	-41.53	936.63	936.86	0.00	0.00	0.00	
9,900.00	90.00	90.35	7,175.00	-42.14	1,036.63	1,036.86	0.00	0.00	0.00	
10,000.00	90.00	90.35	7,175.00	-42.74	1,136.62	1,136.86	0.00	0.00	0.00	
10,100.00	90.00	90.35	7,175.00	-43.35	1,236.62	1,236.86	0.00	0.00	0.00	
10,200.00	90.00	90.35	7,175.00	-43.96	1,336.62	1,336.86	0.00	0.00	0.00	
10,300.00	90.00	90.35	7,175.00	-44.56	1,436.62	1,436.86	0.00	0.00	0.00	
10,400.00	90.00	90.35	7,175.00	-45.17	1,536.62	1,536.86	0.00	0.00	0.00	
10,500.00	90.00	90.35	7,175.00	-45.78	1,636.61	1,636.86	0.00	0.00	0.00	
10,600.00	90.00	90.35	7,175.00	-46.39	1,736.61	1,736.86	0.00	0.00	0.00	
10,700.00	90.00	90.35	7,175.00	-46.99	1,836.61	1,836.86	0.00	0.00	0.00	
10,800.00	90.00	90.35	7,175.00	-47.60	1,936.61	1,936.86	0.00	0.00	0.00	
10,900.00	90.00	90.35	7,175.00	-48.21	2,036.61	2,036.86	0.00	0.00	0.00	
11,000.00	90.00	90.35	7,175.00	-48.81	2,136.61	2,136.86	0.00	0.00	0.00	
11,100.00	90.00	90.35	7,175.00	-49.42	2,236.60	2,236.86	0.00	0.00	0.00	
11,200.00	90.00	90.35	7,175.00	-50.03	2,336.60	2,336.86	0.00	0.00	0.00	
11,300.00	90.00	90.35	7,175.00	-50.63	2,436.60	2,436.86	0.00	0.00	0.00	
11,400.00	90.00	90.35	7,175.00	-51.24	2,536.60	2,536.86	0.00	0.00	0.00	
11,500.00	90.00	90.35	7,175.00	-51.85	2,636.60	2,636.86	0.00	0.00	0.00	
11,600.00	90.00	90.35	7,175.00	-52.45	2,736.59	2,736.86	0.00	0.00	0.00	
11,700.00	90.00	90.35	7,175.00	-53.06	2,836.59	2,836.86	0.00	0.00	0.00	
11,800.00	90.00	90.35	7,175.00	-53.67	2,936.59	2,936.86	0.00	0.00	0.00	
11,900.00	90.00	90.35	7,175.00	-54.27	3,036.59	3,036.86	0.00	0.00	0.00	
12,000.00	90.00	90.35	7,175.00	-54.88	3,136.59	3,136.86	0.00	0.00	0.00	
12,100.00	90.00	90.35	7,175.00	-55.49	3,236.59	3,236.86	0.00	0.00	0.00	
12,200.00	90.00	90.35	7,175.00	-56.09	3,336.58	3,336.86	0.00	0.00	0.00	
12,300.00	90.00	90.35	7,175.00	-56.70	3,436.58	3,436.86	0.00	0.00	0.00	
12,400.00	90.00	90.35	7,175.00	-57.31	3,536.58	3,536.86	0.00	0.00	0.00	
12,500.00	90.00	90.35	7,175.00	-57.91	3,636.58	3,636.86	0.00	0.00	0.00	
12,600.00	90.00	90.35	7,175.00	-58.52	3,736.58	3,736.86	0.00	0.00	0.00	
12,700.00	90.00	90.35	7,175.00	-59.13	3,836.57	3,836.86	0.00	0.00	0.00	

Precision Drilling Corporation

Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	4934'GL+20'KB @ 4954.00usft (PD461)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	4934'GL+20'KB @ 4954.00usft (PD461)
Site:	3N-68W-15 Docheff 11-14HZ	North Reference:	True
Well:	#12N-13HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	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)
12,747.53	90.00	90.35	7,175.00	-59.42	3,884.10	3,884.39	0.00	0.00	0.00
5 1/2" - PBHL #12N-13HZ CAD									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Surface #12N-13HZ - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,608,635.34	1,647,756.11	40.224911°N	104.973706°W
PBHL #12N-13HZ CA - plan hits target center - Point	0.00	0.00	7,175.00	-59.42	3,884.10	14,608,577.07	1,651,640.23	40.224747°N	104.959791°W
LP #12N-13HZ CAD - plan hits target center - Point	0.00	0.00	7,175.00	-29.41	-1,061.31	14,608,605.62	1,646,694.80	40.224830°N	104.977508°W

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name			Casing Diameter (in)	Hole Diameter (in)
1,840.75	1,800.00	9 5/8"			9.63	13.50
12,747.53	7,175.00	5 1/2"			5.50	7.88

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
554.32	554.00	Base Fox Hills				
3,789.96	3,643.00	Parkman				
4,279.64	4,106.00	Sussex				
7,264.18	6,961.00	SSPG				
7,362.17	7,029.00	NBRR				
7,477.37	7,094.00	N470_B_CK				
7,626.66	7,151.00	N700_C_CK				