

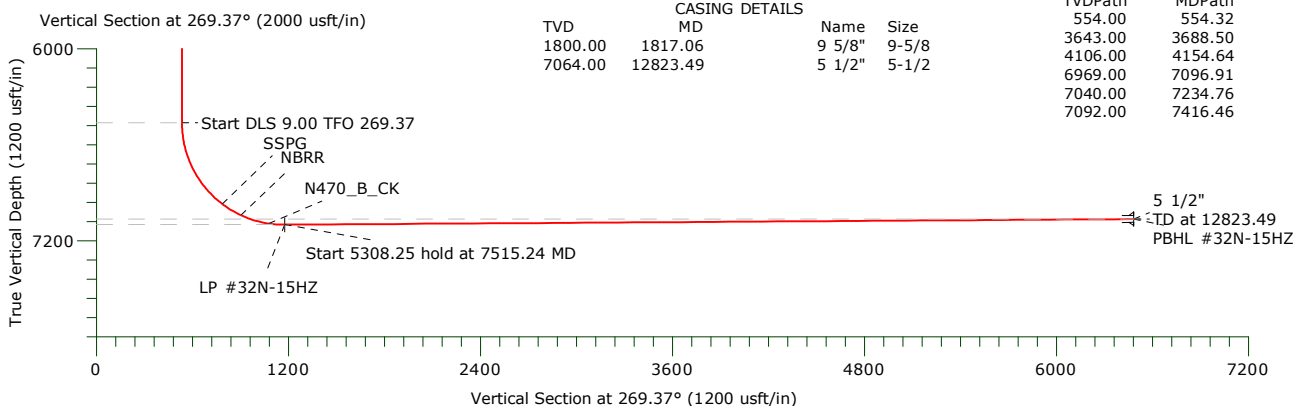
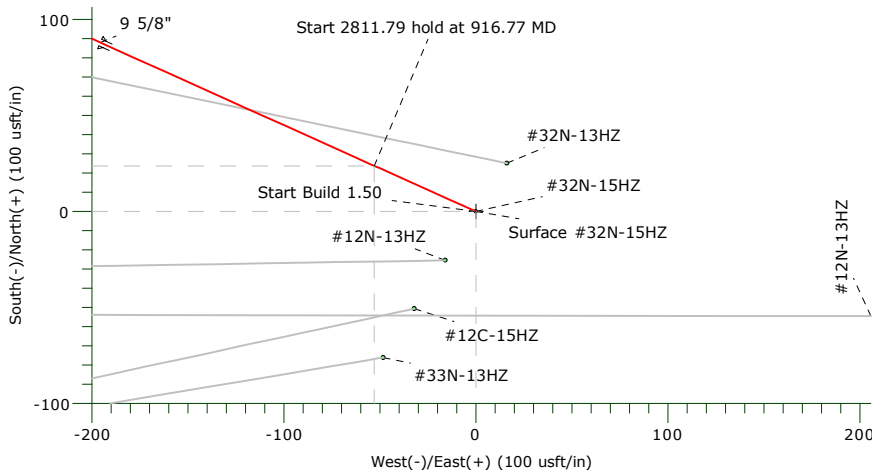
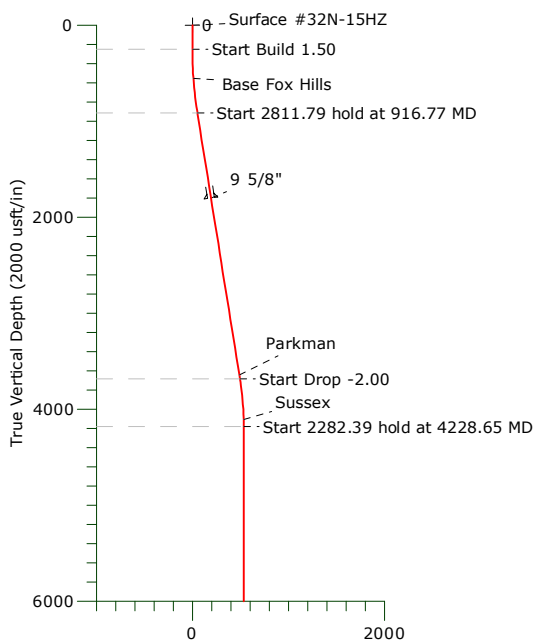
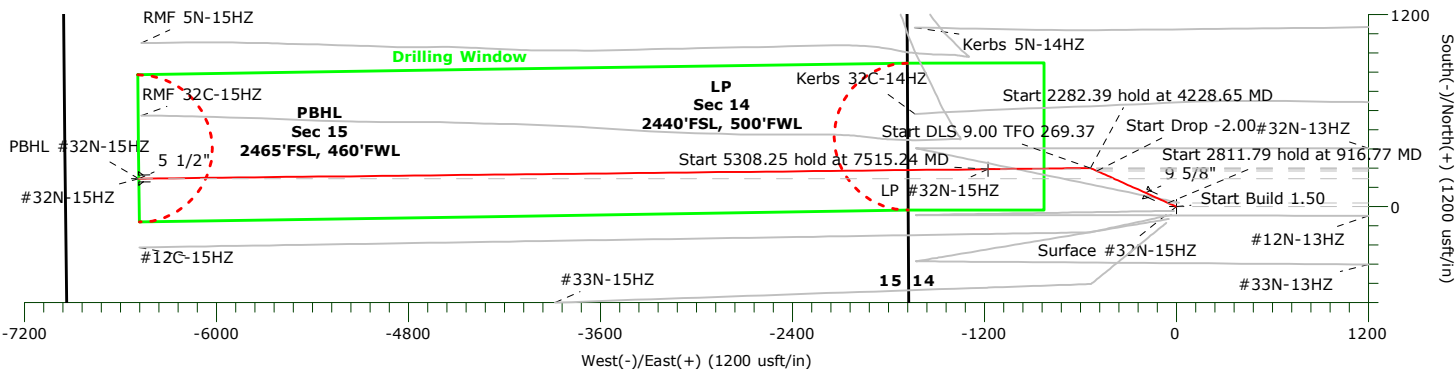


US ROCKIES WATTENBERG PLANNING

Project: WELD-NAD83-UTMFT13N
 Site: 3N-68W-15 Docheff 11-14HZ
 Well: #32N-15HZ
 Wellbore: Original Hole
 Design: Plan #1



Precision
 Directional Services



CASING DETAILS			
TVD	MD	Name	Size
1800.00	1817.06	9 5/8"	9-5/8
7064.00	12823.49	5 1/2"	5-1/2

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
554.00	554.32	Base Fox Hills
3643.00	3688.50	Parkman
4106.00	4154.64	Sussex
6969.00	7096.91	SSPG
7040.00	7234.76	NBRR
7092.00	7416.46	N470_B_CK

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Surface #32N-15HZ	0.00	0.00	0.00	14608660.84	1647772.01	40.224981°N	104.973649°W	Point
PBHL #32N-15HZ	7064.00	176.01	-6486.65	14608834.92	1641285.31	40.225462°N	104.996888°W	Point
LP #32N-15HZ	7099.00	234.77	-1178.84	14608895.26	1646593.10	40.225626°N	104.977872°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	916.77	10.00	294.20	913.39	23.80	-52.95	1.50	294.20	52.68	
4	3728.57	10.00	294.20	3682.46	224.02	-498.35	0.00	0.00	495.86	
5	4228.65	0.00	0.00	4180.00	241.87	-538.06	2.00	180.00	535.37	
6	6511.04	0.00	0.00	6462.39	241.87	-538.06	0.00	0.00	535.37	
7	7515.24	90.38	269.37	7099.00	234.77	-1178.84	9.00	269.37	1176.19	
8	12823.49	90.38	269.37	7064.00	176.01	-6486.65	0.00	0.00	6484.32	PBHL #32N-15HZ

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
3N-68W-15 Docheff 11-14HZ
#32N-15HZ**

Original Hole

Plan: Plan #1

Standard Planning Report

19 February, 2016

Precision Drilling Corporation

Planning Report

Database:	Single User	Local Co-ordinate Reference:	Well #32N-15HZ
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:	#32N-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #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:	13-3/16 "
		Latitude:	40.225050°N
		Longitude:	104.973591°W
		Grid Convergence:	0.02 °

Well	#32N-15HZ		
Well Position	+N-S	-25.13 usft	Northing: 14,608,660.83 usft
	+E-W	-16.19 usft	Easting: 1,647,772.01 usft
Position Uncertainty		3.28 usft	Wellhead Elevation: 0.00 usft
			Latitude: 40.224981°N
			Longitude: 104.973649°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	Plan #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	269.37

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	
916.77	10.00	294.20	913.39	23.80	-52.95	1.50	1.50	0.00	294.20	
3,728.57	10.00	294.20	3,682.46	224.02	-498.35	0.00	0.00	0.00	0.00	
4,228.65	0.00	0.00	4,180.00	241.87	-538.06	2.00	-2.00	0.00	180.00	
6,511.04	0.00	0.00	6,462.39	241.87	-538.06	0.00	0.00	0.00	0.00	
7,515.24	90.38	269.37	7,099.00	234.77	-1,178.84	9.00	9.00	-9.03	269.37	
12,823.49	90.38	269.37	7,064.00	176.01	-6,486.65	0.00	0.00	0.00	0.00	PBHL #32N-15HZ

Precision Drilling Corporation

Planning Report

Database:	Single User	Local Co-ordinate Reference:	Well #32N-15HZ
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:	#32N-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #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 #32N-15HZ										
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	294.20	300.00	0.13	-0.30	0.30	1.50	1.50	0.00	0.00
400.00	2.25	294.20	399.96	1.21	-2.69	2.67	1.50	1.50	0.00	0.00
500.00	3.75	294.20	499.82	3.35	-7.46	7.42	1.50	1.50	0.00	0.00
554.32	4.56	294.20	554.00	4.97	-11.05	11.00	1.50	1.50	0.00	0.00
Base Fox Hills										
600.00	5.25	294.20	599.51	6.57	-14.62	14.54	1.50	1.50	0.00	0.00
700.00	6.75	294.20	698.96	10.86	-24.15	24.03	1.50	1.50	0.00	0.00
800.00	8.25	294.20	798.10	16.21	-36.05	35.87	1.50	1.50	0.00	0.00
900.00	9.75	294.20	896.87	22.62	-50.32	50.07	1.50	1.50	0.00	0.00
916.77	10.00	294.20	913.39	23.80	-52.95	52.68	1.50	1.50	0.00	0.00
1,000.00	10.00	294.20	995.35	29.73	-66.13	65.80	0.00	0.00	0.00	0.00
1,100.00	10.00	294.20	1,093.83	36.85	-81.97	81.56	0.00	0.00	0.00	0.00
1,200.00	10.00	294.20	1,192.31	43.97	-97.81	97.32	0.00	0.00	0.00	0.00
1,300.00	10.00	294.20	1,290.79	51.09	-113.65	113.08	0.00	0.00	0.00	0.00
1,400.00	10.00	294.20	1,389.28	58.21	-129.49	128.84	0.00	0.00	0.00	0.00
1,500.00	10.00	294.20	1,487.76	65.33	-145.33	144.61	0.00	0.00	0.00	0.00
1,600.00	10.00	294.20	1,586.24	72.45	-161.17	160.37	0.00	0.00	0.00	0.00
1,700.00	10.00	294.20	1,684.72	79.57	-177.01	176.13	0.00	0.00	0.00	0.00
1,800.00	10.00	294.20	1,783.20	86.69	-192.85	191.89	0.00	0.00	0.00	0.00
1,817.06	10.00	294.20	1,800.00	87.91	-195.56	194.58	0.00	0.00	0.00	0.00
9 5/8"										
1,900.00	10.00	294.20	1,881.68	93.81	-208.70	207.65	0.00	0.00	0.00	0.00
2,000.00	10.00	294.20	1,980.16	100.93	-224.54	223.41	0.00	0.00	0.00	0.00
2,100.00	10.00	294.20	2,078.64	108.05	-240.38	239.17	0.00	0.00	0.00	0.00
2,200.00	10.00	294.20	2,177.12	115.17	-256.22	254.94	0.00	0.00	0.00	0.00
2,300.00	10.00	294.20	2,275.60	122.30	-272.06	270.70	0.00	0.00	0.00	0.00
2,400.00	10.00	294.20	2,374.08	129.42	-287.90	286.46	0.00	0.00	0.00	0.00
2,500.00	10.00	294.20	2,472.56	136.54	-303.74	302.22	0.00	0.00	0.00	0.00
2,600.00	10.00	294.20	2,571.04	143.66	-319.58	317.98	0.00	0.00	0.00	0.00
2,700.00	10.00	294.20	2,669.52	150.78	-335.42	333.74	0.00	0.00	0.00	0.00
2,800.00	10.00	294.20	2,768.00	157.90	-351.26	349.50	0.00	0.00	0.00	0.00
2,900.00	10.00	294.20	2,866.48	165.02	-367.10	365.27	0.00	0.00	0.00	0.00
3,000.00	10.00	294.20	2,964.96	172.14	-382.94	381.03	0.00	0.00	0.00	0.00
3,100.00	10.00	294.20	3,063.44	179.26	-398.78	396.79	0.00	0.00	0.00	0.00
3,200.00	10.00	294.20	3,161.92	186.38	-414.62	412.55	0.00	0.00	0.00	0.00
3,300.00	10.00	294.20	3,260.40	193.50	-430.47	428.31	0.00	0.00	0.00	0.00
3,400.00	10.00	294.20	3,358.88	200.62	-446.31	444.07	0.00	0.00	0.00	0.00
3,500.00	10.00	294.20	3,457.36	207.74	-462.15	459.84	0.00	0.00	0.00	0.00
3,600.00	10.00	294.20	3,555.84	214.86	-477.99	475.60	0.00	0.00	0.00	0.00
3,688.50	10.00	294.20	3,643.00	221.17	-492.01	489.55	0.00	0.00	0.00	0.00
Parkman										
3,700.00	10.00	294.20	3,654.32	221.98	-493.83	491.36	0.00	0.00	0.00	0.00
3,728.57	10.00	294.20	3,682.46	224.02	-498.35	495.86	0.00	0.00	0.00	0.00
3,800.00	8.57	294.20	3,752.95	228.75	-508.87	506.32	2.00	-2.00	0.00	0.00
3,900.00	6.57	294.20	3,852.07	234.15	-520.89	518.28	2.00	-2.00	0.00	0.00
4,000.00	4.57	294.20	3,951.59	238.13	-529.75	527.09	2.00	-2.00	0.00	0.00
4,100.00	2.57	294.20	4,051.40	240.68	-535.43	532.75	2.00	-2.00	0.00	0.00
4,154.64	1.48	294.20	4,106.00	241.48	-537.19	534.50	2.00	-2.00	0.00	0.00
Sussex										

Precision Drilling Corporation

Planning Report

Database:	Single User	Local Co-ordinate Reference:	Well #32N-15HZ
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:	#32N-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #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)
4,200.00	0.57	294.20	4,151.35	241.81	-537.93	535.24	2.00	-2.00	0.00
4,228.65	0.00	0.00	4,180.00	241.87	-538.06	535.37	2.00	-2.00	0.00
4,300.00	0.00	0.00	4,251.35	241.87	-538.06	535.37	0.00	0.00	0.00
4,400.00	0.00	0.00	4,351.35	241.87	-538.06	535.37	0.00	0.00	0.00
4,500.00	0.00	0.00	4,451.35	241.87	-538.06	535.37	0.00	0.00	0.00
4,600.00	0.00	0.00	4,551.35	241.87	-538.06	535.37	0.00	0.00	0.00
4,700.00	0.00	0.00	4,651.35	241.87	-538.06	535.37	0.00	0.00	0.00
4,800.00	0.00	0.00	4,751.35	241.87	-538.06	535.37	0.00	0.00	0.00
4,900.00	0.00	0.00	4,851.35	241.87	-538.06	535.37	0.00	0.00	0.00
5,000.00	0.00	0.00	4,951.35	241.87	-538.06	535.37	0.00	0.00	0.00
5,100.00	0.00	0.00	5,051.35	241.87	-538.06	535.37	0.00	0.00	0.00
5,200.00	0.00	0.00	5,151.35	241.87	-538.06	535.37	0.00	0.00	0.00
5,300.00	0.00	0.00	5,251.35	241.87	-538.06	535.37	0.00	0.00	0.00
5,400.00	0.00	0.00	5,351.35	241.87	-538.06	535.37	0.00	0.00	0.00
5,500.00	0.00	0.00	5,451.35	241.87	-538.06	535.37	0.00	0.00	0.00
5,600.00	0.00	0.00	5,551.35	241.87	-538.06	535.37	0.00	0.00	0.00
5,700.00	0.00	0.00	5,651.35	241.87	-538.06	535.37	0.00	0.00	0.00
5,800.00	0.00	0.00	5,751.35	241.87	-538.06	535.37	0.00	0.00	0.00
5,900.00	0.00	0.00	5,851.35	241.87	-538.06	535.37	0.00	0.00	0.00
6,000.00	0.00	0.00	5,951.35	241.87	-538.06	535.37	0.00	0.00	0.00
6,100.00	0.00	0.00	6,051.35	241.87	-538.06	535.37	0.00	0.00	0.00
6,200.00	0.00	0.00	6,151.35	241.87	-538.06	535.37	0.00	0.00	0.00
6,300.00	0.00	0.00	6,251.35	241.87	-538.06	535.37	0.00	0.00	0.00
6,400.00	0.00	0.00	6,351.35	241.87	-538.06	535.37	0.00	0.00	0.00
6,500.00	0.00	0.00	6,451.35	241.87	-538.06	535.37	0.00	0.00	0.00
6,511.04	0.00	0.00	6,462.39	241.87	-538.06	535.37	0.00	0.00	0.00
6,550.00	3.51	269.37	6,501.33	241.86	-539.25	536.56	9.00	9.00	0.00
6,600.00	8.01	269.37	6,551.06	241.80	-544.27	541.58	9.00	9.00	0.00
6,650.00	12.51	269.37	6,600.25	241.70	-553.17	550.48	9.00	9.00	0.00
6,700.00	17.01	269.37	6,648.59	241.56	-565.90	563.21	9.00	9.00	0.00
6,750.00	21.51	269.37	6,695.78	241.38	-582.38	579.69	9.00	9.00	0.00
6,800.00	26.01	269.37	6,741.53	241.16	-602.52	599.83	9.00	9.00	0.00
6,850.00	30.51	269.37	6,785.56	240.89	-626.18	623.50	9.00	9.00	0.00
6,900.00	35.01	269.37	6,827.60	240.59	-653.23	650.54	9.00	9.00	0.00
6,950.00	39.51	269.37	6,867.39	240.26	-683.49	680.80	9.00	9.00	0.00
7,000.00	44.01	269.37	6,904.68	239.89	-716.77	714.09	9.00	9.00	0.00
7,050.00	48.51	269.37	6,939.24	239.49	-752.88	750.21	9.00	9.00	0.00
7,096.91	52.73	269.37	6,969.00	239.09	-789.14	786.46	9.00	9.00	0.00
SSPG									
7,100.00	53.01	269.37	6,970.86	239.06	-791.59	788.92	9.00	9.00	0.00
7,150.00	57.51	269.37	6,999.35	238.61	-832.67	829.99	9.00	9.00	0.00
7,200.00	62.01	269.37	7,024.53	238.13	-875.85	873.18	9.00	9.00	0.00
7,234.77	65.14	269.37	7,040.00	237.78	-906.97	904.30	9.00	9.00	0.00
NBRR									
7,250.00	66.51	269.37	7,046.24	237.63	-920.87	918.20	9.00	9.00	0.00
7,300.00	71.01	269.37	7,064.35	237.11	-967.46	964.79	9.00	9.00	0.00
7,350.00	75.51	269.37	7,078.75	236.58	-1,015.32	1,012.66	9.00	9.00	0.00
7,400.00	80.01	269.37	7,089.35	236.04	-1,064.17	1,061.51	9.00	9.00	0.00
7,416.46	81.49	269.37	7,092.00	235.86	-1,080.41	1,077.75	9.00	9.00	0.00
N470_B_CK									
7,450.00	84.51	269.37	7,096.09	235.50	-1,113.70	1,111.04	9.00	9.00	0.00
7,500.00	89.01	269.37	7,098.92	234.94	-1,163.60	1,160.95	9.00	9.00	0.00
7,515.24	90.38	269.37	7,099.00	234.77	-1,178.84	1,176.19	9.00	9.00	0.00

Precision Drilling Corporation

Planning Report

Database:	Single User	Local Co-ordinate Reference:	Well #32N-15HZ
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:	#32N-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #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)	
LP #32N-15HZ										
7,600.00	90.38	269.37	7,098.44	233.84	-1,263.59	1,260.95	0.00	0.00	0.00	
7,700.00	90.38	269.37	7,097.78	232.73	-1,363.59	1,360.94	0.00	0.00	0.00	
7,800.00	90.38	269.37	7,097.12	231.62	-1,463.58	1,460.94	0.00	0.00	0.00	
7,900.00	90.38	269.37	7,096.46	230.51	-1,563.57	1,560.94	0.00	0.00	0.00	
8,000.00	90.38	269.37	7,095.80	229.41	-1,663.56	1,660.94	0.00	0.00	0.00	
8,100.00	90.38	269.37	7,095.14	228.30	-1,763.55	1,760.94	0.00	0.00	0.00	
8,200.00	90.38	269.37	7,094.49	227.19	-1,863.54	1,860.93	0.00	0.00	0.00	
8,300.00	90.38	269.37	7,093.83	226.09	-1,963.54	1,960.93	0.00	0.00	0.00	
8,400.00	90.38	269.37	7,093.17	224.98	-2,063.53	2,060.93	0.00	0.00	0.00	
8,500.00	90.38	269.37	7,092.51	223.87	-2,163.52	2,160.93	0.00	0.00	0.00	
8,600.00	90.38	269.37	7,091.85	222.77	-2,263.51	2,260.93	0.00	0.00	0.00	
8,700.00	90.38	269.37	7,091.19	221.66	-2,363.50	2,360.92	0.00	0.00	0.00	
8,800.00	90.38	269.37	7,090.53	220.55	-2,463.49	2,460.92	0.00	0.00	0.00	
8,900.00	90.38	269.37	7,089.87	219.44	-2,563.49	2,560.92	0.00	0.00	0.00	
9,000.00	90.38	269.37	7,089.21	218.34	-2,663.48	2,660.92	0.00	0.00	0.00	
9,100.00	90.38	269.37	7,088.55	217.23	-2,763.47	2,760.91	0.00	0.00	0.00	
9,200.00	90.38	269.37	7,087.89	216.12	-2,863.46	2,860.91	0.00	0.00	0.00	
9,300.00	90.38	269.37	7,087.23	215.02	-2,963.45	2,960.91	0.00	0.00	0.00	
9,400.00	90.38	269.37	7,086.57	213.91	-3,063.44	3,060.91	0.00	0.00	0.00	
9,500.00	90.38	269.37	7,085.91	212.80	-3,163.44	3,160.91	0.00	0.00	0.00	
9,600.00	90.38	269.37	7,085.25	211.69	-3,263.43	3,260.90	0.00	0.00	0.00	
9,700.00	90.38	269.37	7,084.59	210.59	-3,363.42	3,360.90	0.00	0.00	0.00	
9,800.00	90.38	269.37	7,083.94	209.48	-3,463.41	3,460.90	0.00	0.00	0.00	
9,900.00	90.38	269.37	7,083.28	208.37	-3,563.40	3,560.90	0.00	0.00	0.00	
10,000.00	90.38	269.37	7,082.62	207.27	-3,663.40	3,660.89	0.00	0.00	0.00	
10,100.00	90.38	269.37	7,081.96	206.16	-3,763.39	3,760.89	0.00	0.00	0.00	
10,200.00	90.38	269.37	7,081.30	205.05	-3,863.38	3,860.89	0.00	0.00	0.00	
10,300.00	90.38	269.37	7,080.64	203.95	-3,963.37	3,960.89	0.00	0.00	0.00	
10,400.00	90.38	269.37	7,079.98	202.84	-4,063.36	4,060.89	0.00	0.00	0.00	
10,500.00	90.38	269.37	7,079.32	201.73	-4,163.35	4,160.88	0.00	0.00	0.00	
10,600.00	90.38	269.37	7,078.66	200.62	-4,263.35	4,260.88	0.00	0.00	0.00	
10,700.00	90.38	269.37	7,078.00	199.52	-4,363.34	4,360.88	0.00	0.00	0.00	
10,800.00	90.38	269.37	7,077.34	198.41	-4,463.33	4,460.88	0.00	0.00	0.00	
10,900.00	90.38	269.37	7,076.68	197.30	-4,563.32	4,560.88	0.00	0.00	0.00	
11,000.00	90.38	269.37	7,076.02	196.20	-4,663.31	4,660.87	0.00	0.00	0.00	
11,100.00	90.38	269.37	7,075.36	195.09	-4,763.30	4,760.87	0.00	0.00	0.00	
11,200.00	90.38	269.37	7,074.70	193.98	-4,863.30	4,860.87	0.00	0.00	0.00	
11,300.00	90.38	269.37	7,074.05	192.87	-4,963.29	4,960.87	0.00	0.00	0.00	
11,400.00	90.38	269.37	7,073.39	191.77	-5,063.28	5,060.86	0.00	0.00	0.00	
11,500.00	90.38	269.37	7,072.73	190.66	-5,163.27	5,160.86	0.00	0.00	0.00	
11,600.00	90.38	269.37	7,072.07	189.55	-5,263.26	5,260.86	0.00	0.00	0.00	
11,700.00	90.38	269.37	7,071.41	188.45	-5,363.25	5,360.86	0.00	0.00	0.00	
11,800.00	90.38	269.37	7,070.75	187.34	-5,463.25	5,460.86	0.00	0.00	0.00	
11,900.00	90.38	269.37	7,070.09	186.23	-5,563.24	5,560.85	0.00	0.00	0.00	
12,000.00	90.38	269.37	7,069.43	185.12	-5,663.23	5,660.85	0.00	0.00	0.00	
12,100.00	90.38	269.37	7,068.77	184.02	-5,763.22	5,760.85	0.00	0.00	0.00	
12,200.00	90.38	269.37	7,068.11	182.91	-5,863.21	5,860.85	0.00	0.00	0.00	
12,300.00	90.38	269.37	7,067.45	181.80	-5,963.20	5,960.84	0.00	0.00	0.00	
12,400.00	90.38	269.37	7,066.79	180.70	-6,063.20	6,060.84	0.00	0.00	0.00	
12,500.00	90.38	269.37	7,066.13	179.59	-6,163.19	6,160.84	0.00	0.00	0.00	
12,600.00	90.38	269.37	7,065.47	178.48	-6,263.18	6,260.84	0.00	0.00	0.00	
12,700.00	90.38	269.37	7,064.81	177.38	-6,363.17	6,360.84	0.00	0.00	0.00	

Precision Drilling Corporation

Planning Report

Database:	Single User	Local Co-ordinate Reference:	Well #32N-15HZ
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:	#32N-15HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #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)
12,800.00	90.38	269.37	7,064.16	176.27	-6,463.16	6,460.83	0.00	0.00	0.00
12,823.49	90.38	269.37	7,064.00	176.01	-6,486.65	6,484.32	0.00	0.00	0.00
PBHL #32N-15HZ									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Surface #32N-15HZ - hit/miss target - Shape - Point	0.00	0.00	0.00	0.00	0.00	14,608,660.83	1,647,772.01	40.224981°N	104.973649°W
PBHL #32N-15HZ - plan hits target center - Point	0.00	0.00	7,064.00	176.01	-6,486.65	14,608,834.91	1,641,285.31	40.225462°N	104.996888°W
LP #32N-15HZ - plan hits target center - Point	0.00	0.00	7,099.00	234.77	-1,178.84	14,608,895.26	1,646,593.10	40.225626°N	104.977873°W

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")		
1,817.06	1,800.00	9 5/8"	9-5/8	13-1/2		
12,823.49	7,064.00	5 1/2"	5-1/2	7-7/8		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
554.32	554.00	Base Fox Hills				
3,688.50	3,643.00	Parkman				
4,154.64	4,106.00	Sussex				
7,096.91	6,969.00	SSPG				
7,234.77	7,040.00	NBRR				
7,416.46	7,092.00	N470_B_CK				