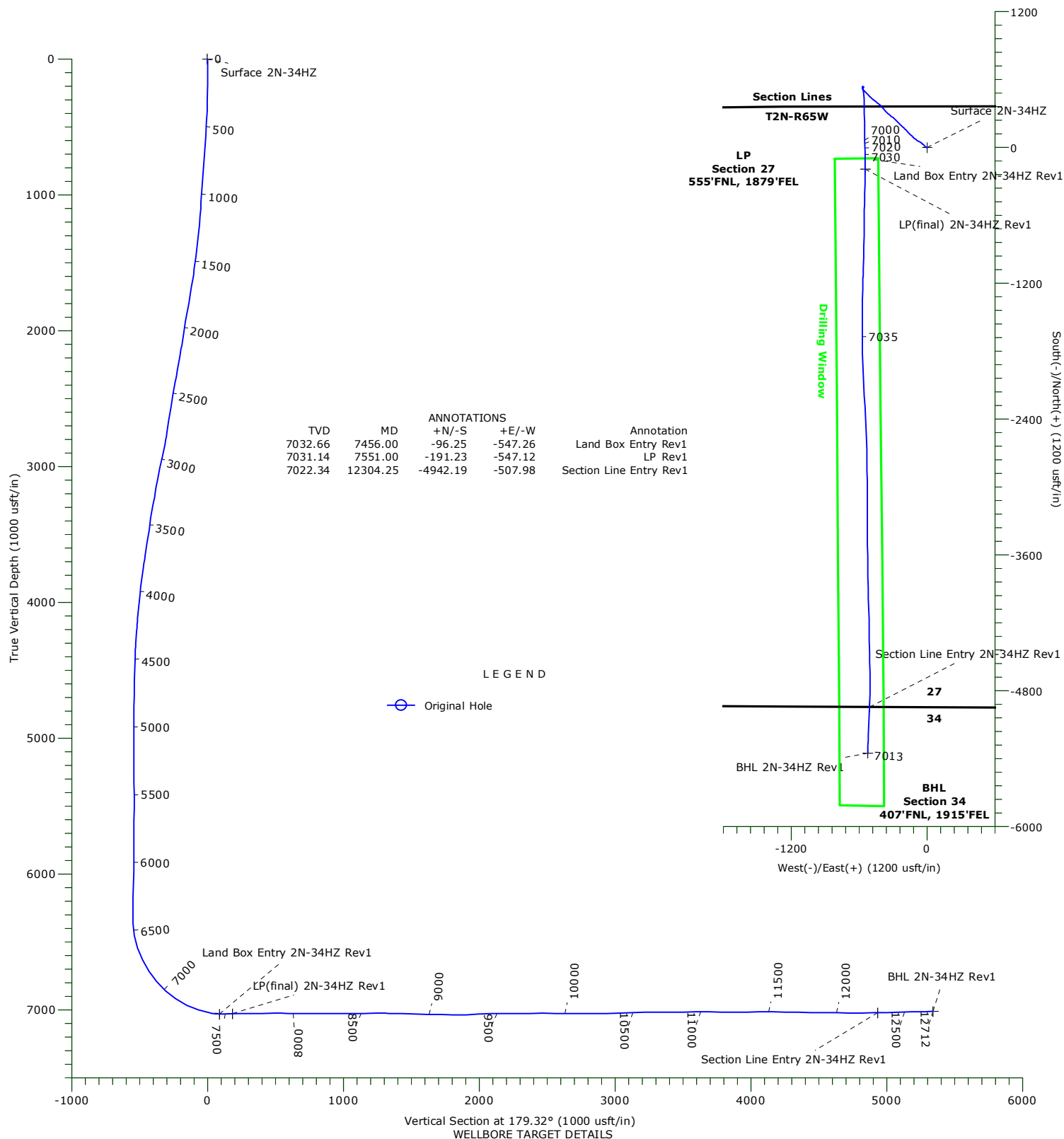




US ROCKIES WATTENBERG PLANNING

Project: WELD-NAD83-UTMFT13N
Site: Powers 1-27HZ Pad
Well: #2N-34HZ
Wellbore: Original Hole
Design: Original Hole



Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well #2N-34HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4926'GL+20'KB @ 4946.00usft (PD460)
Site:	Powers 1-27HZ Pad	MD Reference:	4926'GL+20'KB @ 4946.00usft (PD460)
Well:	#2N-34HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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	Powers 1-27HZ Pad		
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Site Position:		Northing:	14,569,115.93 usft	Latitude:	40.115847°N
From:	Lat/Long	Easting:	1,739,507.83 usft	Longitude:	104.645568°W
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.23 °

Well	#2N-34HZ				
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Well Position	+N/-S	0.00 usft	Northing:	14,569,116.05 usft	Latitude:	40.115847°N
	+E/-W	0.00 usft	Easting:	1,739,537.73 usft	Longitude:	104.645461°W
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,926.00 usft

Wellbore	Original Hole				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	09/01/15	8.21	66.69	52,550

Design	Original Hole				
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.32

Survey Program		Date	11/05/15	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
14.00	1,811.00	Survey #1 (Original Hole)	APC_ISCWSA REV 2 MV Fixed:v2:standard declination	
1,951.00	12,647.00	Survey #4 (Original Hole)	APC_ISCWSA REV 2 MV Fixed:v2:crustal field declination	
12,712.00	12,712.00	Survey #5 (Original Hole)	APC_BLIND	OWSG BLIND

Survey										
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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
Surface 2N-34HZ									
14.00	0.00	0.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00
99.00	0.45	170.20	99.00	-0.33	0.06	0.33	0.53	0.53	0.00
189.00	1.12	259.10	188.99	-0.84	-0.75	0.83	1.33	0.74	98.78
310.00	2.97	305.89	309.92	0.77	-4.45	-0.82	1.94	1.53	38.67
386.00	3.72	304.90	385.79	3.34	-8.07	-3.43	0.99	0.99	-1.30
476.00	4.22	308.82	475.57	7.08	-13.04	-7.24	0.63	0.56	4.36
566.00	4.81	316.22	565.29	11.88	-18.23	-12.10	0.92	0.66	8.22

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well #2N-34HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4926'GL+20'KB @ 4946.00usft (PD460)
Site:	Powers 1-27HZ Pad	MD Reference:	4926'GL+20'KB @ 4946.00usft (PD460)
Well:	#2N-34HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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)
656.00	5.61	320.54	654.92	18.00	-23.64	-18.28	0.99	0.89	4.80
746.00	6.12	310.90	744.45	24.54	-30.06	-24.90	1.23	0.57	-10.71
837.00	6.30	310.79	834.92	30.98	-37.51	-31.42	0.20	0.20	-0.12
927.00	5.91	311.65	924.41	37.28	-44.71	-37.81	0.45	-0.43	0.96
1,017.00	6.62	301.05	1,013.87	43.04	-52.61	-43.66	1.50	0.79	-11.78
1,107.00	8.19	298.40	1,103.12	48.76	-62.70	-49.51	1.78	1.74	-2.94
1,287.00	10.57	306.71	1,280.71	64.73	-87.22	-65.76	1.52	1.32	4.62
1,377.00	10.63	304.68	1,369.17	74.39	-100.66	-75.58	0.42	0.07	-2.26
1,467.00	10.00	307.03	1,457.72	83.82	-113.72	-85.16	0.84	-0.70	2.61
1,602.00	12.18	314.79	1,590.19	100.92	-133.19	-102.49	1.95	1.61	5.75
1,692.00	12.66	315.78	1,678.09	114.67	-146.81	-116.41	0.58	0.53	1.10
1,782.00	13.40	315.26	1,765.77	129.15	-161.03	-131.05	0.83	0.82	-0.58
1,811.00	13.56	315.63	1,793.97	133.97	-165.77	-135.92	0.63	0.55	1.28
1,951.00	13.98	316.14	1,929.95	157.89	-188.96	-160.12	0.31	0.30	0.36
2,045.00	13.45	311.74	2,021.27	173.36	-204.99	-175.78	1.24	-0.56	-4.68
2,137.00	12.66	309.81	2,110.89	186.94	-220.72	-189.54	0.98	-0.86	-2.10
2,232.00	13.98	321.76	2,203.35	202.62	-235.82	-205.40	3.21	1.39	12.58
2,324.00	13.01	315.96	2,292.81	218.79	-249.90	-221.74	1.81	-1.05	-6.30
2,417.00	14.42	313.50	2,383.16	234.29	-265.58	-237.42	1.64	1.52	-2.65
2,513.00	13.54	311.74	2,476.32	250.00	-282.63	-253.33	1.02	-0.92	-1.83
2,606.00	14.16	308.23	2,566.61	264.29	-299.69	-267.82	1.12	0.67	-3.77
2,700.00	14.68	311.92	2,657.65	279.36	-317.59	-283.11	1.12	0.55	3.93
2,793.00	14.16	305.06	2,747.73	293.77	-335.67	-297.73	1.92	-0.56	-7.38
2,885.00	15.21	313.33	2,836.73	308.51	-353.66	-312.69	2.55	1.14	8.99
2,980.00	15.83	322.29	2,928.28	327.32	-370.65	-331.70	2.60	0.65	9.43
3,072.00	15.65	318.25	3,016.84	346.50	-386.59	-351.07	1.21	-0.20	-4.39
3,165.00	14.77	315.24	3,106.58	364.28	-403.29	-369.04	1.27	-0.95	-3.24
3,257.00	13.72	309.99	3,195.75	379.62	-419.91	-384.58	1.81	-1.14	-5.71
3,351.00	15.65	312.27	3,286.68	395.31	-437.84	-400.48	2.14	2.05	2.43
3,445.00	14.77	307.70	3,377.39	411.17	-456.70	-416.56	1.58	-0.94	-4.86
3,540.00	13.28	301.02	3,469.56	424.20	-475.63	-429.82	2.31	-1.57	-7.03
3,634.00	13.19	316.14	3,561.09	437.50	-492.32	-443.31	3.67	-0.10	16.09
3,729.00	12.66	312.10	3,653.69	452.30	-507.56	-458.29	1.10	-0.56	-4.25
3,823.00	10.55	319.48	3,745.76	465.75	-520.79	-471.89	2.74	-2.24	7.85
3,917.00	9.85	316.49	3,838.28	478.12	-531.92	-484.40	0.93	-0.74	-3.18
4,010.00	8.71	315.44	3,930.06	488.91	-542.34	-495.31	1.24	-1.23	-1.13
4,105.00	7.74	312.62	4,024.08	498.36	-552.09	-504.88	1.11	-1.02	-2.97
4,199.00	7.47	310.34	4,117.25	506.60	-561.41	-513.23	0.43	-0.29	-2.43
4,294.00	5.01	336.35	4,211.70	514.40	-567.78	-521.11	3.88	-2.59	27.38
4,388.00	4.48	335.47	4,305.38	521.50	-570.95	-528.24	0.57	-0.56	-0.94
4,483.00	1.67	25.22	4,400.25	526.13	-571.90	-532.88	3.82	-2.96	52.37
4,576.00	1.76	28.74	4,493.21	528.61	-570.64	-535.35	0.15	0.10	3.78
4,669.00	1.67	34.54	4,586.16	530.98	-569.18	-537.70	0.21	-0.10	6.24

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well #2N-34HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4926'GL+20'KB @ 4946.00usft (PD460)
Site:	Powers 1-27HZ Pad	MD Reference:	4926'GL+20'KB @ 4946.00usft (PD460)
Well:	#2N-34HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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)
4,764.00	1.06	57.04	4,681.14	532.60	-567.66	-539.30	0.84	-0.64	23.68
4,856.00	1.06	50.88	4,773.12	533.60	-566.29	-540.28	0.12	0.00	-6.70
4,949.00	1.49	55.98	4,866.10	534.82	-564.62	-541.48	0.48	0.46	5.48
5,042.00	1.76	71.28	4,959.06	535.95	-562.26	-542.59	0.55	0.29	16.45
5,135.00	0.53	229.83	5,052.05	536.13	-561.24	-542.76	2.43	-1.32	170.48
5,320.00	0.97	229.13	5,237.03	534.56	-563.08	-541.20	0.24	0.24	-0.38
5,412.00	1.14	227.37	5,329.02	533.43	-564.34	-540.09	0.19	0.18	-1.91
5,504.00	1.06	241.96	5,421.00	532.41	-565.76	-539.08	0.32	-0.09	15.86
5,598.00	0.70	350.59	5,514.99	532.57	-566.63	-539.25	1.54	-0.38	115.56
5,690.00	0.44	16.61	5,606.99	533.46	-566.62	-540.15	0.39	-0.28	28.28
5,785.00	0.09	305.24	5,701.99	533.85	-566.57	-540.54	0.44	-0.37	-75.13
5,878.00	0.18	194.50	5,794.99	533.75	-566.67	-540.44	0.25	0.10	-119.08
5,972.00	0.79	354.99	5,888.99	534.25	-566.76	-540.94	1.02	0.65	170.73
6,066.00	0.88	352.70	5,982.98	535.62	-566.91	-542.31	0.10	0.10	-2.44
6,161.00	1.32	349.01	6,077.96	537.41	-567.21	-544.11	0.47	0.46	-3.88
6,255.00	1.23	336.35	6,171.93	539.40	-567.82	-546.10	0.31	-0.10	-13.47
6,349.00	0.26	259.36	6,265.93	540.29	-568.44	-546.99	1.28	-1.03	-81.90
6,444.00	0.62	240.73	6,360.92	539.99	-569.10	-546.71	0.40	0.38	-19.61
6,539.00	9.67	171.12	6,455.46	531.84	-568.31	-538.55	9.97	9.53	-73.27
6,633.00	19.70	166.90	6,546.28	508.55	-563.49	-515.20	10.72	10.67	-4.49
6,727.00	25.68	173.58	6,632.98	472.84	-557.62	-479.43	6.92	6.36	7.11
6,823.00	32.54	179.91	6,716.82	426.29	-555.25	-432.84	7.82	7.15	6.59
6,919.00	41.15	179.91	6,793.57	368.77	-555.16	-375.34	8.97	8.97	0.00
7,014.00	48.54	179.21	6,860.88	301.83	-554.62	-308.39	7.80	7.78	-0.74
7,109.00	55.49	178.50	6,919.32	227.02	-553.10	-233.56	7.34	7.32	-0.75
7,204.00	63.58	179.03	6,967.44	145.22	-551.35	-151.75	8.53	8.52	0.56
7,298.00	71.49	178.68	7,003.33	58.44	-549.61	-64.96	8.42	8.41	-0.37
7,392.00	80.37	179.21	7,026.16	-32.64	-547.94	26.13	9.46	9.45	0.56
7,454.52	87.80	179.56	7,032.60	-94.78	-547.27	88.28	11.90	11.88	0.56
Land Box Entry 2N-34HZ Rev1									
7,486.00	91.54	179.73	7,032.78	-126.25	-547.08	119.75	11.90	11.88	0.55
7,551.00	91.36	180.34	7,031.14	-191.23	-547.12	184.72	0.98	-0.28	0.94
LP(final) 2N-34HZ Rev1									
7,580.00	91.28	180.61	7,030.47	-220.22	-547.36	213.71	0.98	-0.28	0.94
7,673.00	90.22	181.31	7,029.25	-313.20	-548.91	306.66	1.37	-1.14	0.75
7,767.00	91.89	180.79	7,027.52	-407.16	-550.64	400.60	1.86	1.78	-0.55
7,861.00	89.87	181.67	7,026.08	-501.12	-552.65	494.53	2.34	-2.15	0.94
7,956.00	88.29	180.61	7,027.60	-596.09	-554.54	589.46	2.00	-1.66	-1.12
8,050.00	89.43	180.79	7,029.47	-690.06	-555.69	683.42	1.23	1.21	0.19
8,143.00	91.19	180.44	7,028.97	-783.05	-556.69	776.39	1.93	1.89	-0.38
8,237.00	89.69	181.31	7,028.25	-877.03	-558.13	870.35	1.84	-1.60	0.93
8,332.00	90.84	181.67	7,027.81	-972.00	-560.60	965.27	1.27	1.21	0.38
8,426.00	88.99	180.96	7,027.95	-1,065.97	-562.75	1,059.21	2.11	-1.97	-0.76
8,519.00	91.10	182.37	7,027.88	-1,158.92	-565.45	1,152.13	2.73	2.27	1.52

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well #2N-34HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4926'GL+20'KB @ 4946.00usft (PD460)
Site:	Powers 1-27HZ Pad	MD Reference:	4926'GL+20'KB @ 4946.00usft (PD460)
Well:	#2N-34HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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)
8,612.00	90.92	180.79	7,026.24	-1,251.87	-568.02	1,245.04	1.71	-0.19	-1.70
8,706.00	88.11	180.44	7,027.03	-1,345.85	-569.03	1,339.00	3.01	-2.99	-0.37
8,800.00	88.11	180.96	7,030.13	-1,439.79	-570.17	1,432.92	0.55	0.00	0.55
8,893.00	88.99	181.84	7,032.49	-1,532.73	-572.45	1,525.83	1.34	0.95	0.95
8,988.00	88.90	179.21	7,034.24	-1,627.70	-573.32	1,620.78	2.77	-0.09	-2.77
9,084.00	88.99	179.91	7,036.00	-1,723.68	-572.58	1,716.77	0.74	0.09	0.73
9,177.00	88.99	177.97	7,037.64	-1,816.65	-570.86	1,809.75	2.09	0.00	-2.09
9,272.00	91.71	177.27	7,037.06	-1,911.55	-566.91	1,904.69	2.96	2.86	-0.74
9,366.00	92.15	177.10	7,033.90	-2,005.39	-562.30	1,998.57	0.50	0.47	-0.18
9,461.00	90.75	177.45	7,031.49	-2,100.25	-557.79	2,093.48	1.52	-1.47	0.37
9,555.00	91.01	177.10	7,030.05	-2,194.13	-553.32	2,187.41	0.46	0.28	-0.37
9,649.00	91.10	176.57	7,028.32	-2,287.97	-548.13	2,281.30	0.57	0.10	-0.56
9,743.00	90.40	178.15	7,027.09	-2,381.86	-543.80	2,375.24	1.84	-0.74	1.68
9,836.00	89.78	177.80	7,026.94	-2,474.80	-540.51	2,468.21	0.77	-0.67	-0.38
9,931.00	89.87	177.62	7,027.23	-2,569.72	-536.72	2,563.17	0.21	0.09	-0.19
10,026.00	89.16	177.10	7,028.04	-2,664.62	-532.34	2,658.11	0.93	-0.75	-0.55
10,120.00	88.55	179.73	7,029.92	-2,758.56	-529.74	2,752.07	2.87	-0.65	2.80
10,215.00	91.19	179.91	7,030.13	-2,853.55	-529.44	2,847.06	2.79	2.78	0.19
10,310.00	91.63	179.73	7,027.79	-2,948.52	-529.15	2,942.03	0.50	0.46	-0.19
10,404.00	91.45	180.08	7,025.27	-3,042.48	-528.99	3,035.99	0.42	-0.19	0.37
10,497.00	91.54	180.08	7,022.84	-3,135.45	-529.12	3,128.95	0.10	0.10	0.00
10,592.00	92.42	179.91	7,019.56	-3,230.39	-529.11	3,223.89	0.94	0.93	-0.18
10,685.00	89.60	179.38	7,017.92	-3,323.37	-528.54	3,316.86	3.09	-3.03	-0.57
10,778.00	90.04	179.21	7,018.21	-3,416.36	-527.39	3,409.86	0.51	0.47	-0.18
10,872.00	90.31	179.03	7,017.92	-3,510.35	-525.95	3,503.86	0.35	0.29	-0.19
10,966.00	91.19	179.03	7,016.69	-3,604.32	-524.36	3,597.85	0.94	0.94	0.00
11,060.00	88.99	179.21	7,016.55	-3,698.31	-522.91	3,691.84	2.35	-2.34	0.19
11,153.00	89.34	178.85	7,017.90	-3,791.28	-521.34	3,784.83	0.54	0.38	-0.39
11,247.00	90.31	178.68	7,018.19	-3,885.26	-519.31	3,878.82	1.05	1.03	-0.18
11,341.00	90.57	178.85	7,017.47	-3,979.24	-517.29	3,972.82	0.33	0.28	0.18
11,435.00	90.66	177.97	7,016.46	-4,073.19	-514.68	4,066.80	0.94	0.10	-0.94
11,529.00	88.90	179.38	7,016.82	-4,167.16	-512.50	4,160.79	2.40	-1.87	1.50
11,623.00	89.34	178.85	7,018.26	-4,261.14	-511.05	4,254.77	0.73	0.47	-0.56
11,717.00	89.16	178.85	7,019.49	-4,355.11	-509.17	4,348.76	0.19	-0.19	0.00
11,811.00	89.16	179.21	7,020.87	-4,449.09	-507.58	4,442.75	0.38	0.00	0.38
11,905.00	89.25	179.38	7,022.17	-4,543.07	-506.42	4,536.74	0.20	0.10	0.18
12,000.00	89.60	179.03	7,023.13	-4,638.06	-505.10	4,631.74	0.52	0.37	-0.37
12,092.00	89.25	179.03	7,024.05	-4,730.04	-503.54	4,723.73	0.38	-0.38	0.00
12,185.00	90.22	181.49	7,024.48	-4,823.03	-503.97	4,816.71	2.84	1.04	2.65
12,278.00	91.54	182.19	7,023.05	-4,915.97	-506.95	4,909.61	1.61	1.42	0.75
12,303.25	91.59	182.29	7,022.36	-4,941.19	-507.94	4,934.81	0.43	0.18	0.39
Section Line Entry 2N-34HZ Rev1									
12,370.00	91.71	182.55	7,020.44	-5,007.85	-510.75	5,001.44	0.43	0.18	0.39

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well #2N-34HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4926'GL+20'KB @ 4946.00usft (PD460)
Site:	Powers 1-27HZ Pad	MD Reference:	4926'GL+20'KB @ 4946.00usft (PD460)
Well:	#2N-34HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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)
12,463.00	91.36	182.19	7,017.95	-5,100.74	-514.60	5,094.27	0.54	-0.38	-0.39
12,555.00	90.92	182.72	7,016.12	-5,192.64	-518.54	5,186.12	0.75	-0.48	0.58
12,647.00	91.28	181.67	7,014.36	-5,284.55	-522.06	5,277.98	1.21	0.39	-1.14
12,712.00	91.28	181.67	7,012.90	-5,349.51	-523.96	5,342.91	0.00	0.00	0.00
BHL 2N-34HZ Rev1									

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 2N-34HZ - actual wellpath hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,569,116.05	1,739,537.73	40.115847°N	104.645461°W
BHL 2N-34HZ Rev1 - actual wellpath hits target center - Point	0.00	0.00	7,012.91	-5,349.51	-523.96	14,563,764.50	1,739,035.11	40.101157°N	104.647335°W
Section Line Entry 2N - actual wellpath hits target center - Point	0.00	0.00	7,022.36	-4,941.19	-507.94	14,564,172.87	1,739,049.50	40.102278°N	104.647278°W
LP(final) 2N-34HZ Re - actual wellpath hits target center - Point	0.00	0.00	7,031.14	-191.23	-547.12	14,568,922.64	1,738,991.39	40.115322°N	104.647418°W
Land Box Entry 2N-34 - actual wellpath hits target center - Point	0.00	0.00	7,032.60	-94.76	-547.27	14,569,019.11	1,738,990.84	40.115587°N	104.647419°W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,456.00	7,032.66	-96.25	-547.26	Land Box Entry Rev1
7,551.00	7,031.14	-191.23	-547.12	LP Rev1
12,304.25	7,022.34	-4,942.19	-507.98	Section Line Entry Rev1