

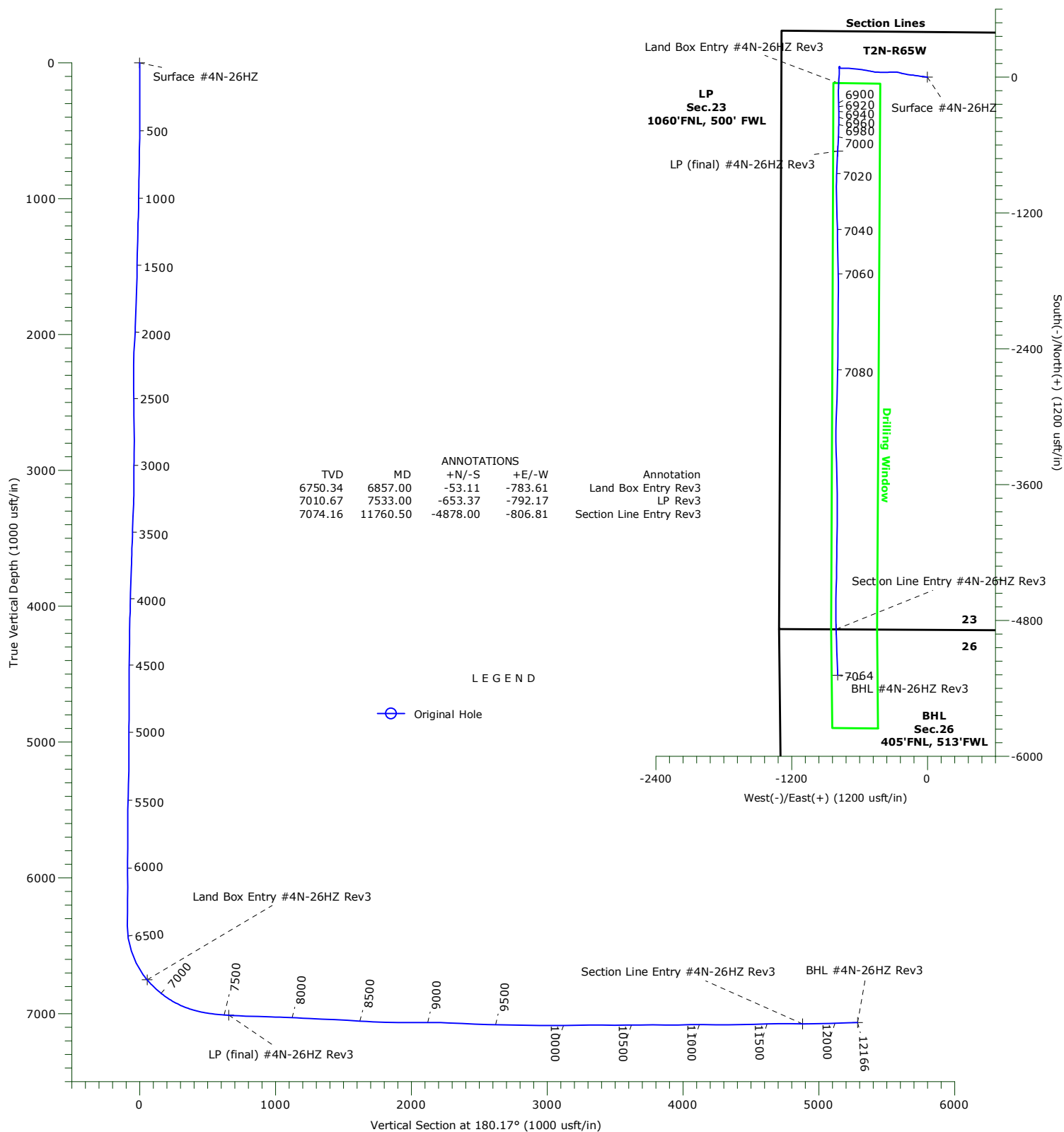


US ROCKIES WATTENBERG PLANNING

Project: WELD-NAD83-UTMFT13N
Site: GE Powers Pad
Well: #4N-26HZ
Wellbore: Original Hole
Design: Original Hole



Precision
Directional Services



WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Surface #4N-26HZ	0.00	0.00	0.00	14574369.75	1742152.15	40.130245°N	104.636033°W	Point
Land Box Entry #4N-26HZ Rev3	6750.34	-53.11	-783.61	14574313.43	1741368.76	40.130099°N	104.638836°W	Point
LP (final) #4N-26HZ Rev3	7010.67	-653.37	-792.17	14573713.14	1741362.67	40.128451°N	104.638867°W	Point
BHL #4N-26HZ Rev3	7064.08	-5283.09	-792.79	14569083.46	1741380.99	40.115737°N	104.638869°W	Point
Section Line Entry #4N-26HZ Rev3	7074.16	-4878.00	-806.81	14569488.49	1741365.32	40.116849°N	104.638919°W	Point

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well #4N-26HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4890'GL+20'KB @ 4910.00usft (PD460)
Site:	GE Powers Pad	MD Reference:	4890'GL+20'KB @ 4910.00usft (PD460)
Well:	#4N-26HZ	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	GE Powers Pad		
Site Position:		Northing:	14,574,369.28 usft
From:	Lat/Long	Easting:	1,742,212.01 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	40.130243°N
		Longitude:	104.635819°W
		Grid Convergence:	0.23 °

Well	#4N-26HZ		
Well Position	+N-S	0.00 usft	Northing: 14,574,369.74 usft
	+E-W	0.00 usft	Easting: 1,742,152.15 usft
Position Uncertainty	3.28 usft	Wellhead Elevation:	0.00 usft
		Latitude:	40.130245°N
		Longitude:	104.636033°W
		Ground Level:	4,890.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	09/01/15	8.31	66.70	52,469

Design	Original Hole				
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	180.17	

Survey Program	Date	11/02/15			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
117.00	1,787.00	Survey #1 (Original Hole)	APC_ISCWSA REV 2 MV Fixed:v2:standard declination		
1,964.00	12,100.00	Survey #4 (Original Hole)	APC_ISCWSA REV 2 MV Fixed:v2:crustal field declination		
12,166.00	12,166.00	Survey #5 (Original Hole)	APC_BLIND	OWSG BLIND	

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
Surface #4N-26HZ									
117.00	0.53	113.99	117.00	-0.22	0.49	0.22	0.45	0.45	0.00
206.00	0.36	142.55	206.00	-0.61	1.04	0.61	0.31	-0.19	32.09
297.00	0.66	234.61	296.99	-1.14	0.79	1.14	0.84	0.33	101.16
375.00	1.33	273.86	374.98	-1.34	-0.48	1.34	1.18	0.86	50.32
465.00	2.36	277.43	464.93	-1.03	-3.36	1.04	1.15	1.14	3.97
555.00	3.40	283.35	554.82	-0.17	-7.80	0.20	1.20	1.16	6.58
645.00	4.50	284.17	644.60	1.31	-13.82	-1.27	1.22	1.22	0.91

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well #4N-26HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4890'GL+20'KB @ 4910.00usft (PD460)
Site:	GE Powers Pad	MD Reference:	4890'GL+20'KB @ 4910.00usft (PD460)
Well:	#4N-26HZ	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)
735.00	6.13	280.10	734.21	3.01	-21.97	-2.95	1.86	1.81	-4.52
825.00	7.11	277.49	823.61	4.58	-32.22	-4.49	1.14	1.09	-2.90
915.00	8.40	274.58	912.79	5.83	-44.30	-5.70	1.50	1.43	-3.23
1,006.00	7.98	274.60	1,002.86	6.87	-57.22	-6.70	0.46	-0.46	0.02
1,141.00	9.61	282.21	1,136.27	10.01	-77.58	-9.78	1.48	1.21	5.64
1,231.00	11.16	277.47	1,224.80	12.73	-93.56	-12.45	1.97	1.72	-5.27
1,321.00	10.49	277.52	1,313.20	14.93	-110.32	-14.61	0.74	-0.74	0.06
1,411.00	10.42	276.05	1,401.70	16.86	-126.53	-16.49	0.31	-0.08	-1.63
1,501.00	10.14	275.85	1,490.26	18.53	-142.51	-18.11	0.31	-0.31	-0.22
1,591.00	9.71	277.28	1,578.91	20.30	-157.92	-19.83	0.55	-0.48	1.59
1,681.00	10.04	279.35	1,667.58	22.53	-173.19	-22.02	0.54	0.37	2.30
1,787.00	10.04	281.41	1,771.95	25.86	-191.36	-25.29	0.34	0.00	1.94
1,964.00	9.67	282.80	1,946.34	32.21	-220.98	-31.55	0.25	-0.21	0.79
2,057.00	12.31	284.73	2,037.63	36.46	-238.19	-35.75	2.87	2.84	2.08
2,152.00	11.96	286.84	2,130.51	41.89	-257.40	-41.12	0.59	-0.37	2.22
2,247.00	12.31	272.08	2,223.41	45.11	-276.95	-44.28	3.28	0.37	-15.54
2,343.00	11.96	270.67	2,317.26	45.59	-297.12	-44.71	0.48	-0.36	-1.47
2,438.00	11.34	266.98	2,410.30	45.22	-316.29	-44.28	1.02	-0.65	-3.88
2,533.00	10.64	265.05	2,503.56	43.97	-334.36	-42.98	0.83	-0.74	-2.03
2,626.00	9.94	267.86	2,595.07	42.93	-350.93	-41.89	0.93	-0.75	3.02
2,720.00	9.06	262.94	2,687.78	41.72	-366.39	-40.63	1.27	-0.94	-5.23
2,815.00	10.38	272.25	2,781.42	41.13	-382.36	-40.00	2.16	1.39	9.80
2,910.00	9.76	271.02	2,874.95	41.61	-398.97	-40.43	0.69	-0.65	-1.29
3,005.00	11.96	274.54	2,968.25	42.53	-416.83	-41.30	2.42	2.32	3.71
3,100.00	11.17	272.08	3,061.32	43.65	-435.84	-42.35	0.98	-0.83	-2.59
3,195.00	10.11	270.32	3,154.68	44.03	-453.37	-42.68	1.17	-1.12	-1.85
3,290.00	11.52	282.45	3,248.01	46.12	-470.98	-44.72	2.81	1.48	12.77
3,385.00	10.99	281.22	3,341.18	49.93	-489.12	-48.48	0.61	-0.56	-1.29
3,480.00	10.11	278.58	3,434.57	52.93	-506.25	-51.43	1.06	-0.93	-2.78
3,575.00	11.43	281.22	3,527.90	56.01	-523.73	-54.45	1.48	1.39	2.78
3,670.00	10.38	280.34	3,621.18	59.38	-541.38	-57.77	1.12	-1.11	-0.93
3,765.00	12.57	278.23	3,714.28	62.39	-560.04	-60.73	2.35	2.31	-2.22
3,859.00	11.70	279.46	3,806.18	65.42	-579.56	-63.70	0.97	-0.93	1.31
3,955.00	10.73	278.41	3,900.34	68.33	-598.00	-66.56	1.03	-1.01	-1.09
4,050.00	10.29	276.82	3,993.75	70.63	-615.18	-68.81	0.55	-0.46	-1.67
4,146.00	13.45	277.00	4,087.68	73.01	-634.78	-71.13	3.29	3.29	0.19
4,240.00	13.10	274.71	4,179.17	75.22	-656.25	-73.27	0.67	-0.37	-2.44
4,336.00	11.43	273.84	4,272.98	76.75	-676.58	-74.74	1.75	-1.74	-0.91
4,431.00	11.08	273.84	4,366.15	77.99	-695.08	-75.93	0.37	-0.37	0.00
4,526.00	11.17	271.73	4,459.37	78.88	-713.39	-76.76	0.44	0.09	-2.22
4,621.00	10.55	269.97	4,552.66	79.15	-731.28	-76.98	0.74	-0.65	-1.85
4,716.00	10.20	268.21	4,646.11	78.89	-748.38	-76.66	0.50	-0.37	-1.85
4,811.00	8.09	273.13	4,739.90	78.99	-763.47	-76.72	2.37	-2.22	5.18

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well #4N-26HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4890'GL+20'KB @ 4910.00usft (PD460)
Site:	GE Powers Pad	MD Reference:	4890'GL+20'KB @ 4910.00usft (PD460)
Well:	#4N-26HZ	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)
4,907.00	4.57	280.87	4,835.30	80.08	-773.97	-77.78	3.76	-3.67	8.06
5,001.00	2.73	271.02	4,929.11	80.82	-779.89	-78.51	2.06	-1.96	-10.48
5,095.00	1.14	259.07	5,023.05	80.69	-783.05	-78.36	1.74	-1.69	-12.71
5,190.00	1.06	55.87	5,118.04	81.00	-783.25	-78.68	2.27	-0.08	165.05
5,285.00	1.32	57.80	5,213.02	82.08	-781.59	-79.76	0.28	0.27	2.03
5,380.00	2.02	43.56	5,307.98	83.87	-779.51	-81.56	0.85	0.74	-14.99
5,475.00	2.11	35.83	5,402.92	86.50	-777.34	-84.20	0.31	0.09	-8.14
5,570.00	1.06	55.52	5,497.89	88.42	-775.59	-86.12	1.23	-1.11	20.73
5,665.00	0.26	56.39	5,592.88	89.04	-774.68	-86.74	0.84	-0.84	0.92
5,760.00	0.44	41.10	5,687.88	89.43	-774.26	-87.13	0.21	0.19	-16.09
5,855.00	0.70	14.73	5,782.87	90.27	-773.88	-87.97	0.38	0.27	-27.76
5,950.00	0.79	261.88	5,877.87	90.74	-774.38	-88.44	1.31	0.09	-118.79
6,045.00	0.88	257.31	5,972.86	90.48	-775.74	-88.18	0.12	0.09	-4.81
6,140.00	0.97	266.63	6,067.84	90.28	-777.25	-87.97	0.18	0.09	9.81
6,233.00	0.62	335.01	6,160.84	90.68	-778.25	-88.38	1.01	-0.38	73.53
6,328.00	0.88	343.09	6,255.83	91.85	-778.68	-89.54	0.29	0.27	8.51
6,424.00	0.35	277.53	6,351.82	92.59	-779.19	-90.28	0.83	-0.55	-68.29
6,518.00	8.88	181.55	6,445.45	85.36	-779.67	-83.05	9.49	9.07	-102.11
6,613.00	18.29	178.74	6,537.69	63.08	-779.54	-60.77	9.93	9.91	-2.96
6,709.00	25.32	181.90	6,626.77	27.46	-779.89	-25.14	7.42	7.32	3.29
6,804.00	35.53	182.96	6,708.58	-20.54	-781.99	22.86	10.76	10.75	1.12
6,857.01	40.43	182.75	6,750.34	-53.11	-783.61	55.44	9.26	9.25	-0.40
Land Box Entry #4N-26HZ Rev3									
6,899.00	44.32	182.61	6,781.36	-81.38	-784.93	83.71	9.26	9.25	-0.33
6,994.00	50.39	180.67	6,845.69	-151.19	-786.88	153.53	6.56	6.39	-2.04
7,089.00	58.65	177.68	6,900.79	-228.46	-785.66	230.79	9.06	8.69	-3.15
7,182.00	67.01	178.56	6,943.22	-311.08	-782.97	313.40	9.03	8.99	0.95
7,277.00	74.30	181.02	6,974.67	-400.65	-782.69	402.97	8.05	7.67	2.59
7,372.00	80.90	182.61	6,995.06	-493.33	-785.64	495.66	7.14	6.95	1.67
7,467.00	85.74	182.08	7,006.11	-587.58	-789.50	589.92	5.12	5.09	-0.56
7,533.00	86.34	182.57	7,010.67	-653.37	-792.17	655.71	1.17	0.92	0.74
LP (final) #4N-26HZ Rev3									
7,562.00	86.61	182.78	7,012.45	-682.28	-793.52	684.63	1.17	0.92	0.74
7,658.00	87.67	182.96	7,017.24	-778.04	-798.32	780.40	1.12	1.10	0.19
7,753.00	88.20	181.90	7,020.66	-872.89	-802.34	875.27	1.25	0.56	-1.12
7,846.00	88.46	180.50	7,023.37	-965.83	-804.29	968.21	1.53	0.28	-1.51
7,941.00	87.23	178.39	7,026.95	-1,060.75	-803.37	1,063.13	2.57	-1.29	-2.22
8,034.00	88.20	178.56	7,030.65	-1,153.64	-800.90	1,156.01	1.06	1.04	0.18
8,126.00	86.88	178.03	7,034.60	-1,245.51	-798.16	1,247.88	1.55	-1.43	-0.58
8,219.00	86.97	178.74	7,039.59	-1,338.34	-795.54	1,340.70	0.77	0.10	0.76
8,315.00	88.37	179.79	7,043.49	-1,434.25	-794.31	1,436.60	1.82	1.46	1.09
8,409.00	86.00	178.39	7,048.11	-1,528.12	-792.82	1,530.46	2.93	-2.52	-1.49
8,503.00	86.53	178.21	7,054.23	-1,621.87	-790.04	1,624.21	0.60	0.56	-0.19
8,597.00	87.58	179.09	7,059.06	-1,715.72	-787.83	1,718.05	1.46	1.12	0.94

Precision Drilling Corporation

Survey Report

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Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4890'GL+20'KB @ 4910.00usft (PD460)
Site:	GE Powers Pad	MD Reference:	4890'GL+20'KB @ 4910.00usft (PD460)
Well:	#4N-26HZ	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)
8,689.00	88.20	179.27	7,062.45	-1,807.65	-786.51	1,809.98	0.70	0.67	0.20
8,782.00	89.08	180.32	7,064.66	-1,900.62	-786.18	1,902.94	1.47	0.95	1.13
8,876.00	91.10	181.20	7,064.51	-1,994.61	-787.43	1,996.93	2.34	2.15	0.94
8,968.00	88.72	180.50	7,064.65	-2,086.59	-788.79	2,088.92	2.70	-2.59	-0.76
9,063.00	90.13	180.32	7,065.61	-2,181.58	-789.47	2,183.91	1.50	1.48	-0.19
9,157.00	87.49	180.32	7,067.56	-2,275.55	-790.00	2,277.88	2.81	-2.81	0.00
9,253.00	87.23	179.97	7,071.98	-2,371.45	-790.24	2,373.78	0.45	-0.27	-0.36
9,348.00	87.58	180.67	7,076.28	-2,466.35	-790.77	2,468.68	0.82	0.37	0.74
9,443.00	88.64	181.37	7,079.42	-2,561.28	-792.46	2,563.62	1.34	1.12	0.74
9,538.00	88.81	180.85	7,081.53	-2,656.24	-794.30	2,658.58	0.58	0.18	-0.55
9,633.00	88.99	181.20	7,083.35	-2,751.20	-796.00	2,753.55	0.41	0.19	0.37
9,727.00	89.08	182.08	7,084.94	-2,845.15	-798.69	2,847.51	0.94	0.10	0.94
9,822.00	89.60	182.78	7,086.03	-2,940.06	-802.72	2,942.43	0.92	0.55	0.74
9,915.00	89.78	181.20	7,086.53	-3,033.00	-805.95	3,035.38	1.71	0.19	-1.70
10,008.00	90.57	181.20	7,086.25	-3,125.98	-807.89	3,128.36	0.85	0.85	0.00
10,100.00	91.45	178.74	7,084.63	-3,217.95	-807.85	3,220.34	2.84	0.96	-2.67
10,193.00	89.96	178.56	7,083.48	-3,310.92	-805.66	3,313.29	1.61	-1.60	-0.19
10,285.00	89.60	178.39	7,083.84	-3,402.89	-803.21	3,405.25	0.43	-0.39	-0.18
10,377.00	90.04	178.39	7,084.13	-3,494.85	-800.62	3,497.21	0.48	0.48	0.00
10,471.00	90.57	178.91	7,083.63	-3,588.82	-798.41	3,591.17	0.79	0.56	0.55
10,563.00	91.36	179.27	7,082.08	-3,680.79	-796.95	3,683.14	0.94	0.86	0.39
10,657.00	89.34	180.14	7,081.50	-3,774.79	-796.46	3,777.13	2.34	-2.15	0.93
10,751.00	89.60	180.14	7,082.37	-3,868.78	-796.69	3,871.13	0.28	0.28	0.00
10,844.00	90.48	180.67	7,082.31	-3,961.78	-797.35	3,964.13	1.10	0.95	0.57
10,937.00	91.28	181.20	7,080.88	-4,054.75	-798.87	4,057.11	1.03	0.86	0.57
11,029.00	89.52	180.32	7,080.24	-4,146.74	-800.09	4,149.09	2.14	-1.91	-0.96
11,122.00	89.52	180.50	7,081.02	-4,239.73	-800.75	4,242.09	0.19	0.00	0.19
11,214.00	90.40	180.85	7,081.08	-4,331.73	-801.84	4,334.09	1.03	0.96	0.38
11,308.00	91.45	181.55	7,079.56	-4,425.69	-803.81	4,428.06	1.34	1.12	0.74
11,400.00	90.66	181.20	7,077.87	-4,517.65	-806.01	4,520.02	0.94	-0.86	-0.38
11,493.00	92.07	181.90	7,075.65	-4,610.58	-808.53	4,612.96	1.69	1.52	0.75
11,585.00	90.92	179.79	7,073.25	-4,702.54	-809.88	4,704.92	2.61	-1.25	-2.29
11,678.00	88.99	178.91	7,073.33	-4,795.53	-808.83	4,797.90	2.28	-2.08	-0.95
11,760.50	89.85	178.29	7,074.16	-4,878.00	-806.81	4,880.37	1.29	1.04	-0.75
Section Line Entry #4N-26HZ Rev3									
11,771.00	89.96	178.21	7,074.18	-4,888.49	-806.49	4,890.86	1.29	1.04	-0.75
11,864.00	90.84	178.03	7,073.53	-4,981.44	-803.44	4,983.80	0.97	0.95	-0.19
11,958.00	91.36	178.03	7,071.72	-5,075.36	-800.21	5,077.72	0.55	0.55	0.00
12,050.00	92.07	178.03	7,068.97	-5,167.27	-797.05	5,169.61	0.77	0.77	0.00
12,100.00	92.51	177.86	7,066.97	-5,217.20	-795.26	5,219.53	0.94	0.88	-0.34
12,166.00	92.51	177.86	7,064.08	-5,283.09	-792.79	5,285.42	0.00	0.00	0.00
BHL #4N-26HZ Rev3									

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well #4N-26HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4890'GL+20'KB @ 4910.00usft (PD460)
Site:	GE Powers Pad	MD Reference:	4890'GL+20'KB @ 4910.00usft (PD460)
Well:	#4N-26HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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 #4N-26HZ - actual wellpath hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,574,369.74	1,742,152.15	40.130245°N	104.636033°W
Land Box Entry #4N-2 - actual wellpath hits target center - Point	0.00	0.00	6,750.34	-53.11	-783.61	14,574,313.43	1,741,368.76	40.130099°N	104.638837°W
LP (final) #4N-26HZ F - actual wellpath hits target center - Point	0.00	0.00	7,010.67	-653.37	-792.17	14,573,713.14	1,741,362.66	40.128451°N	104.638867°W
BHL #4N-26HZ Rev3 - actual wellpath hits target center - Point	0.00	0.00	7,064.08	-5,283.09	-792.80	14,569,083.45	1,741,380.99	40.115737°N	104.638869°W
Section Line Entry #4I - actual wellpath hits target center - Point	0.00	0.00	7,074.16	-4,878.00	-806.81	14,569,488.48	1,741,365.32	40.116850°N	104.638919°W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,857.00	6,750.34	-53.11	-783.61	Land Box Entry Rev3
7,533.00	7,010.67	-653.37	-792.17	LP Rev3
11,760.50	7,074.16	-4,878.00	-806.81	Section Line Entry Rev3