



Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Surface 33C-33HZ	0.00	0.00	0.00	14588357.67	1669086.12	40.169184°N	104.897374°W	Point
KOP 33C-33HZ	6708.96	-824.13	-1316.12	14587532.02	1667770.96	40.166921°N	104.902085°W	Point
PBHL 33C-33HZ	7370.00	4316.33	-1411.91	14592672.37	1667669.22	40.181037°N	104.902429°W	Point
460' Setback Crossing #2 33C-33HZ	7386.05	3011.37	-1381.93	14591367.44	1667700.72	40.177453°N	104.902321°W	Point
BHL 33C-33HZ	7397.23	4301.18	-1412.08	14592657.22	1667669.07	40.180995°N	104.902430°W	Point
460' Setback Crossing #1 33C-33HZ	7399.65	1210.74	-1336.54	14589566.86	1667748.18	40.172509°N	104.902159°W	Point
Land Box Entry 33C-33HZ	7410.57	-193.26	-1316.75	14588162.89	1667769.59	40.168653°N	104.902087°W	Point
Landing Point 33C-33HZ	7414.83	-128.47	-1315.09	14588227.68	1667771.18	40.168831°N	104.902082°W	Point

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

3N-67W-33 Babcock 6-4HZ Pad

Babcock 33C-33HZ

Original Hole

Design: Original Hole

Standard Survey Report

26 June, 2017

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well Babcock 33C-33HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4886'GL + 21'KB @ 4907.00usft (PD464)
Site:	3N-67W-33 Babcock 6-4HZ Pad	MD Reference:	4886'GL + 21'KB @ 4907.00usft (PD464)
Well:	Babcock 33C-33HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

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-67W-33 Babcock 6-4HZ Pad				
Site Position:		Northing:	14,588,357.65 usft	Latitude:	40.169184°N
From:	Lat/Long	Easting:	1,669,071.31 usft	Longitude:	104.897427°W
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.07 °

Well		Babcock 33C-33HZ				
Well Position	+N-S	0.00 usft	Northing:	14,588,357.67 usft	Latitude:	40.169184°N
	+E-W	0.00 usft	Easting:	1,669,086.12 usft	Longitude:	104.897374°W
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,886.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	03/31/16	8.27	66.68	52,491.28982989

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	358.88	

Survey Program	Date	06/26/17			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
9.00	1,785.00	Survey #1 (Original Hole)	APC_ISCWSA REV 2 MV Fixed:v2:crustal field declination		
1,924.00	12,432.00	Survey #2 (Original Hole)	APC_ISCWSA REV 2 MV Fixed:v2:crustal field declination		
12,485.00	12,485.00	Survey #3 (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	
9.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	
174.00	0.24	355.89	174.00	0.34	-0.02	0.35	0.15	0.15	0.00	
247.00	0.34	354.55	247.00	0.71	-0.06	0.71	0.14	0.14	-1.84	
336.00	0.52	336.07	336.00	1.34	-0.25	1.35	0.25	0.20	-20.76	
425.00	0.47	320.85	424.99	2.00	-0.64	2.01	0.16	-0.06	-17.10	
511.00	0.74	284.45	510.99	2.41	-1.40	2.44	0.53	0.31	-42.33	
598.00	0.81	269.55	597.98	2.54	-2.56	2.59	0.24	0.08	-17.13	
685.00	0.51	278.21	684.97	2.59	-3.56	2.66	0.36	-0.34	9.95	

Precision Drilling Corporation

Survey Report

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Site:	3N-67W-33 Babcock 6-4HZ Pad	MD Reference:	4886'GL + 21'KB @ 4907.00usft (PD464)
Well:	Babcock 33C-33HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

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)
771.00	0.54	298.04	770.97	2.84	-4.29	2.92	0.21	0.03	23.06
860.00	0.18	223.64	859.97	2.94	-4.76	3.03	0.59	-0.40	-83.60
947.00	1.03	236.41	946.96	2.40	-5.51	2.51	0.98	0.98	14.68
1,033.00	2.43	235.40	1,032.92	0.94	-7.65	1.09	1.63	1.63	-1.17
1,122.00	3.70	233.01	1,121.79	-1.86	-11.50	-1.63	1.43	1.43	-2.69
1,211.00	5.30	228.06	1,210.52	-6.33	-16.85	-6.00	1.85	1.80	-5.56
1,299.00	6.89	230.43	1,298.02	-12.41	-23.94	-11.94	1.83	1.81	2.69
1,386.00	8.21	236.89	1,384.26	-19.13	-33.17	-18.48	1.80	1.52	7.43
1,475.00	7.86	240.20	1,472.39	-25.63	-43.77	-24.77	0.65	-0.39	3.72
1,561.00	8.90	240.35	1,557.47	-31.84	-54.66	-30.76	1.21	1.21	0.17
1,648.00	10.50	240.00	1,643.22	-39.13	-67.37	-37.81	1.84	1.84	-0.40
1,737.00	11.51	240.93	1,730.58	-47.50	-82.16	-45.89	1.15	1.13	1.04
1,785.00	11.93	241.38	1,777.58	-52.21	-90.70	-50.42	0.90	0.88	0.94
1,924.00	11.87	240.41	1,913.60	-66.15	-115.74	-63.87	0.15	-0.04	-0.70
2,014.00	13.71	241.47	2,001.36	-75.81	-133.16	-73.19	2.06	2.04	1.18
2,104.00	14.92	236.90	2,088.57	-87.23	-152.24	-84.24	1.84	1.34	-5.08
2,193.00	16.31	236.28	2,174.28	-100.43	-172.23	-97.04	1.57	1.56	-0.70
2,283.00	17.27	235.14	2,260.44	-115.08	-193.70	-111.27	1.13	1.07	-1.27
2,372.00	18.50	236.10	2,345.14	-130.51	-216.27	-126.26	1.42	1.38	1.08
2,462.00	18.90	237.42	2,430.39	-146.32	-240.40	-141.59	0.65	0.44	1.47
2,551.00	20.02	240.06	2,514.31	-161.69	-265.75	-156.46	1.60	1.26	2.97
2,641.00	21.84	242.35	2,598.36	-177.15	-293.93	-171.37	2.22	2.02	2.54
2,731.00	20.90	240.06	2,682.18	-192.93	-322.67	-186.58	1.40	-1.04	-2.54
2,820.00	22.57	243.84	2,764.85	-208.38	-351.76	-201.47	2.45	1.88	4.25
2,910.00	21.18	242.52	2,848.37	-223.50	-381.69	-216.00	1.64	-1.54	-1.47
3,000.00	22.55	241.20	2,931.89	-239.32	-411.24	-231.23	1.62	1.52	-1.47
3,090.00	21.56	240.24	3,015.31	-255.84	-440.72	-247.18	1.17	-1.10	-1.07
3,179.00	22.22	240.24	3,097.89	-272.31	-469.52	-263.08	0.74	0.74	0.00
3,269.00	20.15	237.77	3,181.81	-289.03	-497.41	-279.25	2.50	-2.30	-2.74
3,359.00	20.02	238.13	3,266.33	-305.43	-523.61	-295.13	0.20	-0.14	0.40
3,448.00	21.40	235.58	3,349.58	-322.65	-549.94	-311.84	1.85	1.55	-2.87
3,538.00	22.55	237.07	3,433.04	-341.31	-577.97	-329.95	1.42	1.28	1.66
3,627.00	22.61	235.93	3,515.22	-360.17	-606.47	-348.25	0.50	0.07	-1.28
3,717.00	22.35	237.77	3,598.38	-378.99	-635.27	-366.50	0.83	-0.29	2.04
3,806.00	23.25	239.18	3,680.43	-397.02	-664.67	-383.95	1.18	1.01	1.58
3,896.00	22.99	239.36	3,763.20	-415.08	-695.05	-401.41	0.30	-0.29	0.20
3,985.00	23.49	240.32	3,844.98	-432.72	-725.41	-418.45	0.70	0.56	1.08
4,075.00	21.89	239.18	3,928.01	-450.19	-755.41	-435.34	1.84	-1.78	-1.27
4,165.00	22.79	239.71	4,011.25	-467.58	-784.87	-452.15	1.02	1.00	0.59
4,254.00	21.03	238.65	4,093.82	-484.59	-813.39	-468.59	2.03	-1.98	-1.19
4,344.00	21.82	238.65	4,177.60	-501.69	-841.47	-485.15	0.88	0.88	0.00
4,434.00	21.71	236.28	4,261.19	-519.63	-869.60	-502.54	0.98	-0.12	-2.63
4,524.00	22.28	235.75	4,344.64	-538.48	-897.55	-520.83	0.67	0.63	-0.59

Precision Drilling Corporation

Survey Report

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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)
4,613.00	22.85	238.48	4,426.83	-557.01	-926.22	-538.80	1.34	0.64	3.07
4,703.00	21.67	237.34	4,510.12	-575.11	-955.11	-556.33	1.40	-1.31	-1.27
4,792.00	23.71	236.28	4,592.23	-593.91	-983.83	-574.57	2.34	2.29	-1.19
4,882.00	20.96	233.99	4,675.47	-613.43	-1,011.91	-593.53	3.20	-3.06	-2.54
4,996.00	20.63	232.41	4,782.04	-637.66	-1,044.32	-617.13	0.57	-0.29	-1.39
5,086.00	20.81	234.70	4,866.22	-656.57	-1,069.93	-635.54	0.92	0.20	2.54
5,175.00	19.36	232.06	4,949.81	-674.78	-1,094.47	-653.26	1.92	-1.63	-2.97
5,265.00	18.53	237.86	5,034.94	-691.56	-1,118.34	-669.57	2.29	-0.92	6.44
5,354.00	18.42	241.03	5,119.36	-705.90	-1,142.62	-683.43	1.14	-0.12	3.56
5,444.00	18.22	244.10	5,204.80	-718.93	-1,167.72	-695.97	1.09	-0.22	3.41
5,533.00	15.89	242.70	5,289.88	-730.60	-1,191.06	-707.18	2.66	-2.62	-1.57
5,623.00	15.91	243.05	5,376.43	-741.84	-1,213.01	-717.99	0.11	0.02	0.39
5,713.00	12.39	239.97	5,463.69	-752.27	-1,232.37	-728.03	4.00	-3.91	-3.42
5,802.00	13.62	240.06	5,550.41	-762.27	-1,249.72	-737.70	1.38	1.38	0.10
5,892.00	10.77	236.02	5,638.37	-772.27	-1,265.88	-747.37	3.30	-3.17	-4.49
5,982.00	11.30	243.84	5,726.71	-780.85	-1,280.77	-755.67	1.76	0.59	8.69
6,071.00	8.70	242.70	5,814.35	-787.79	-1,294.58	-762.33	2.93	-2.92	-1.28
6,161.00	6.92	239.36	5,903.51	-793.67	-1,305.29	-768.01	2.04	-1.98	-3.71
6,250.00	5.27	239.18	5,992.00	-798.50	-1,313.41	-772.67	1.85	-1.85	-0.20
6,340.00	4.35	239.18	6,081.69	-802.36	-1,319.89	-776.41	1.02	-1.02	0.00
6,430.00	4.40	205.52	6,171.44	-807.23	-1,324.31	-781.19	2.81	0.06	-37.40
6,519.00	3.58	159.02	6,260.24	-812.91	-1,324.79	-786.86	3.64	-0.92	-52.25
6,609.00	2.44	156.65	6,350.12	-817.29	-1,323.02	-791.27	1.27	-1.27	-2.63
6,699.00	2.09	146.46	6,440.05	-820.42	-1,321.36	-794.43	0.59	-0.39	-11.32
6,788.00	1.54	126.59	6,529.00	-822.48	-1,319.50	-796.53	0.93	-0.62	-22.33
6,878.00	1.19	115.69	6,618.98	-823.61	-1,317.69	-797.69	0.48	-0.39	-12.11
6,968.00	0.94	99.17	6,708.96	-824.13	-1,316.12	-798.25	0.44	-0.28	-18.36
KOP									
7,057.00	10.20	6.71	6,797.49	-816.40	-1,314.47	-790.55	11.55	10.40	-103.89
7,147.00	19.01	2.32	6,884.50	-793.79	-1,312.94	-767.98	9.86	9.79	-4.88
7,237.00	26.02	2.84	6,967.59	-759.39	-1,311.37	-733.61	7.79	7.79	0.58
7,327.00	32.17	2.23	7,046.19	-715.69	-1,309.46	-689.96	6.84	6.83	-0.68
7,416.00	38.02	1.88	7,118.98	-664.57	-1,307.63	-638.89	6.58	6.57	-0.39
7,506.00	42.32	359.33	7,187.74	-606.55	-1,307.08	-580.88	5.11	4.78	-2.83
7,596.00	50.30	355.81	7,249.87	-541.60	-1,309.97	-515.90	9.30	8.87	-3.91
7,685.00	56.74	356.87	7,302.76	-470.23	-1,314.51	-444.44	7.30	7.24	1.19
7,775.00	62.10	359.33	7,348.53	-392.82	-1,317.03	-367.00	6.40	5.96	2.73
7,865.00	72.19	0.82	7,383.45	-310.00	-1,316.88	-284.20	11.31	11.21	1.66
7,954.00	78.98	359.42	7,405.59	-223.85	-1,316.72	-198.07	7.78	7.63	-1.57
7,985.00	82.54	0.43	7,410.57	-193.26	-1,316.75	-167.49	11.92	11.47	3.27
Land Box Entry									
8,044.00	89.31	2.32	7,414.76	-134.46	-1,315.34	-108.73	11.92	11.48	3.20
8,050.00	89.39	2.38	7,414.83	-128.47	-1,315.09	-102.74	1.67	1.36	0.98
Landing Point									

Precision Drilling Corporation

Survey Report

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Site:	3N-67W-33 Babcock 6-4HZ Pad	MD Reference:	4886'GL + 21'KB @ 4907.00usft (PD464)
Well:	Babcock 33C-33HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

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)
8,133.00	90.52	3.19	7,414.89	-45.57	-1,311.06	-19.93	1.67	1.36	0.98
8,223.00	89.33	3.02	7,415.01	44.30	-1,306.18	69.82	1.34	-1.32	-0.19
8,313.00	91.53	3.19	7,414.34	134.16	-1,301.31	159.57	2.45	2.44	0.19
8,402.00	92.08	0.56	7,411.53	223.06	-1,298.40	248.39	3.02	0.62	-2.96
8,492.00	91.83	0.03	7,408.46	313.00	-1,297.94	338.31	0.65	-0.28	-0.59
8,582.00	91.00	359.42	7,406.24	402.97	-1,298.37	428.27	1.14	-0.92	-0.68
8,671.00	90.80	359.86	7,404.84	491.96	-1,298.93	517.25	0.54	-0.22	0.49
8,761.00	90.93	357.31	7,403.48	581.91	-1,301.15	607.24	2.84	0.14	-2.83
8,850.00	90.43	357.31	7,402.43	670.81	-1,305.33	696.20	0.56	-0.56	0.00
8,940.00	89.66	356.78	7,402.35	760.69	-1,309.97	786.15	1.04	-0.86	-0.59
9,030.00	92.43	355.99	7,400.71	850.49	-1,315.64	876.04	3.20	3.08	-0.88
9,120.00	91.77	356.87	7,397.42	940.25	-1,321.24	965.90	1.22	-0.73	0.98
9,209.00	90.08	356.52	7,395.98	1,029.09	-1,326.37	1,054.82	1.94	-1.90	-0.39
9,299.00	88.89	356.16	7,396.79	1,118.90	-1,332.11	1,144.72	1.38	-1.32	-0.40
9,389.00	87.57	358.27	7,399.57	1,208.74	-1,336.49	1,234.63	2.76	-1.47	2.34
9,391.00	87.58	358.34	7,399.65	1,210.74	-1,336.54	1,236.63	3.33	0.67	3.26
460' Setback Crossing #1									
9,478.00	88.17	1.17	7,402.88	1,297.67	-1,336.92	1,323.55	3.33	0.67	3.26
9,568.00	90.98	0.82	7,403.54	1,387.64	-1,335.36	1,413.48	3.15	3.12	-0.39
9,658.00	91.04	1.26	7,401.96	1,477.61	-1,333.72	1,503.40	0.49	0.07	0.49
9,747.00	91.99	0.82	7,399.60	1,566.57	-1,332.11	1,592.31	1.18	1.07	-0.49
9,837.00	92.67	358.01	7,395.94	1,656.48	-1,333.03	1,682.22	3.21	0.76	-3.12
9,927.00	90.16	357.13	7,393.72	1,746.36	-1,336.84	1,772.16	2.96	-2.79	-0.98
10,016.00	89.79	357.57	7,393.76	1,835.27	-1,340.96	1,861.13	0.65	-0.42	0.49
10,106.00	89.26	357.39	7,394.51	1,925.18	-1,344.91	1,951.10	0.62	-0.59	-0.20
10,196.00	90.82	358.10	7,394.44	2,015.10	-1,348.45	2,041.08	1.90	1.73	0.79
10,285.00	90.78	358.54	7,393.20	2,104.06	-1,351.06	2,130.06	0.50	-0.04	0.49
10,375.00	90.32	358.54	7,392.34	2,194.02	-1,353.36	2,220.06	0.51	-0.51	0.00
10,464.00	92.01	358.01	7,390.53	2,282.96	-1,356.03	2,309.03	1.99	1.90	-0.60
10,554.00	89.75	356.60	7,389.15	2,372.84	-1,360.27	2,398.98	2.96	-2.51	-1.57
10,644.00	91.04	357.39	7,388.53	2,462.71	-1,364.98	2,488.92	1.68	1.43	0.88
10,733.00	89.20	356.43	7,388.34	2,551.58	-1,369.78	2,577.87	2.33	-2.07	-1.08
10,823.00	91.02	358.71	7,388.17	2,641.49	-1,373.60	2,667.83	3.24	2.02	2.53
10,913.00	89.97	358.01	7,387.39	2,731.45	-1,376.17	2,757.82	1.40	-1.17	-0.78
11,002.00	90.98	359.33	7,386.65	2,820.42	-1,378.24	2,846.82	1.87	1.13	1.48
11,092.00	89.31	358.62	7,386.42	2,910.40	-1,379.85	2,936.81	2.02	-1.86	-0.79
11,182.00	90.96	358.98	7,386.21	3,000.37	-1,381.73	3,026.81	1.88	1.83	0.40
11,193.00	90.75	358.99	7,386.05	3,011.37	-1,381.93	3,037.81	1.91	-1.91	0.09
460' Setback Crossing #2									
11,271.00	89.26	359.06	7,386.04	3,089.36	-1,383.25	3,115.81	1.91	-1.91	0.09
11,361.00	90.56	357.31	7,386.18	3,179.31	-1,386.10	3,205.79	2.42	1.44	-1.94
11,451.00	91.02	358.36	7,384.94	3,269.23	-1,389.50	3,295.77	1.27	0.51	1.17
11,540.00	89.51	358.01	7,384.53	3,358.18	-1,392.32	3,384.76	1.74	-1.70	-0.39
11,630.00	85.64	357.39	7,388.34	3,448.01	-1,395.93	3,474.64	4.35	-4.30	-0.69

Precision Drilling Corporation

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well Babcock 33C-33HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4886'GL + 21'KB @ 4907.00usft (PD464)
Site:	3N-67W-33 Babcock 6-4HZ Pad	MD Reference:	4886'GL + 21'KB @ 4907.00usft (PD464)
Well:	Babcock 33C-33HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

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)
11,720.00	83.97	356.78	7,396.49	3,537.52	-1,400.49	3,564.22	1.97	-1.86	-0.68
11,809.00	85.48	356.87	7,404.67	3,626.01	-1,405.40	3,652.79	1.70	1.70	0.10
11,899.00	87.31	357.57	7,410.33	3,715.72	-1,409.75	3,742.57	2.18	2.03	0.78
11,988.00	89.31	359.06	7,412.95	3,804.64	-1,412.37	3,831.52	2.80	2.25	1.67
12,078.00	92.56	0.21	7,411.48	3,894.61	-1,412.94	3,921.48	3.83	3.61	1.28
12,168.00	92.49	359.94	7,407.52	3,984.52	-1,412.82	4,011.38	0.31	-0.08	-0.30
12,257.00	90.03	356.87	7,405.56	4,073.45	-1,415.30	4,100.33	4.42	-2.76	-3.45
12,347.00	92.91	2.05	7,403.25	4,163.37	-1,416.15	4,190.26	6.58	3.20	5.76
12,432.00	92.32	1.53	7,399.37	4,248.24	-1,413.50	4,275.06	0.92	-0.69	-0.61
12,485.00	92.32	1.53	7,397.23	4,301.18	-1,412.08	4,327.96	0.00	0.00	0.00

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 33C-33HZ - actual wellpath hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,588,357.67	1,669,086.12	40.169184°N	104.897374°W
KOP 33C-33HZ - actual wellpath hits target center - Point	0.00	0.00	6,708.96	-824.13	-1,316.12	14,587,532.02	1,667,770.96	40.166921°N	104.902085°W
PBHL 33C-33HZ - actual wellpath misses target center by 31.16usft at 12485.00usft MD (7397.23 TVD, 4301.18 N, -1412.08 E) - Point	0.00	0.00	7,370.00	4,316.33	-1,411.91	14,592,672.36	1,667,669.22	40.181037°N	104.902429°W
460' Setback Crossing - actual wellpath hits target center - Point	0.00	0.00	7,386.05	3,011.37	-1,381.93	14,591,367.44	1,667,700.71	40.177454°N	104.902322°W
BHL 33C-33HZ - actual wellpath hits target center - Point	0.00	0.00	7,397.23	4,301.18	-1,412.08	14,592,657.21	1,667,669.07	40.180995°N	104.902430°W
460' Setback Crossing - actual wellpath hits target center - Point	0.00	0.00	7,399.65	1,210.74	-1,336.54	14,589,566.86	1,667,748.18	40.172509°N	104.902159°W
Land Box Entry 33C-33 - actual wellpath hits target center - Point	0.00	0.00	7,410.57	-193.26	-1,316.75	14,588,162.88	1,667,769.59	40.168653°N	104.902088°W
Landing Point 33C-33 - actual wellpath hits target center - Point	0.00	0.00	7,414.83	-128.47	-1,315.09	14,588,227.68	1,667,771.18	40.168831°N	104.902082°W

Precision Drilling Corporation
Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well Babcock 33C-33HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4886'GL + 21'KB @ 4907.00usft (PD464)
Site:	3N-67W-33 Babcock 6-4HZ Pad	MD Reference:	4886'GL + 21'KB @ 4907.00usft (PD464)
Well:	Babcock 33C-33HZ	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,968.00	6,708.96	-824.13	-1,316.12	KOP
7,985.00	7,410.57	-193.26	-1,316.75	Land Box Entry
8,050.00	7,414.83	-128.47	-1,315.09	Landing Point
9,391.00	7,399.65	1,210.74	-1,336.54	460' Setback Crossing #1
11,193.00	7,386.05	3,011.37	-1,381.93	460' Setback Crossing #2

Checked By: _____ Approved By: _____ Date: _____