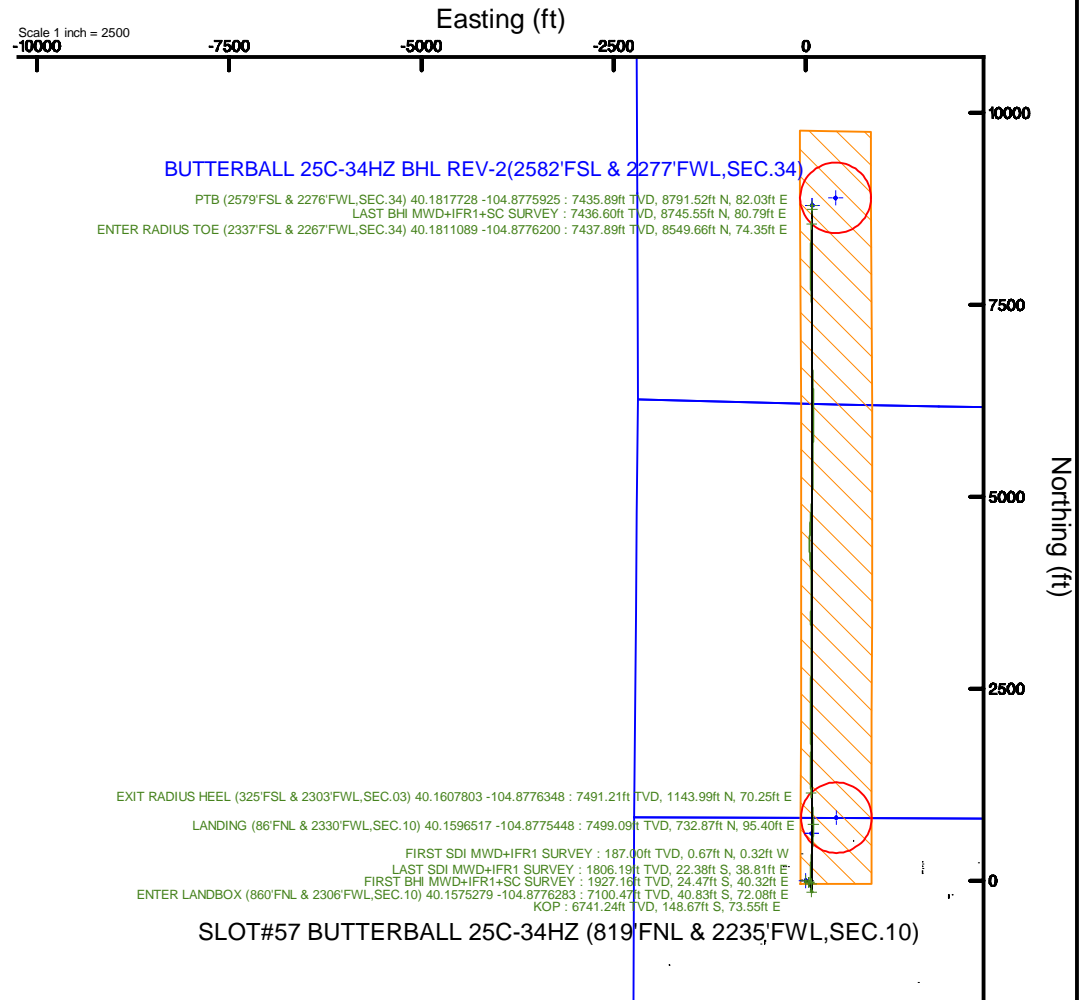
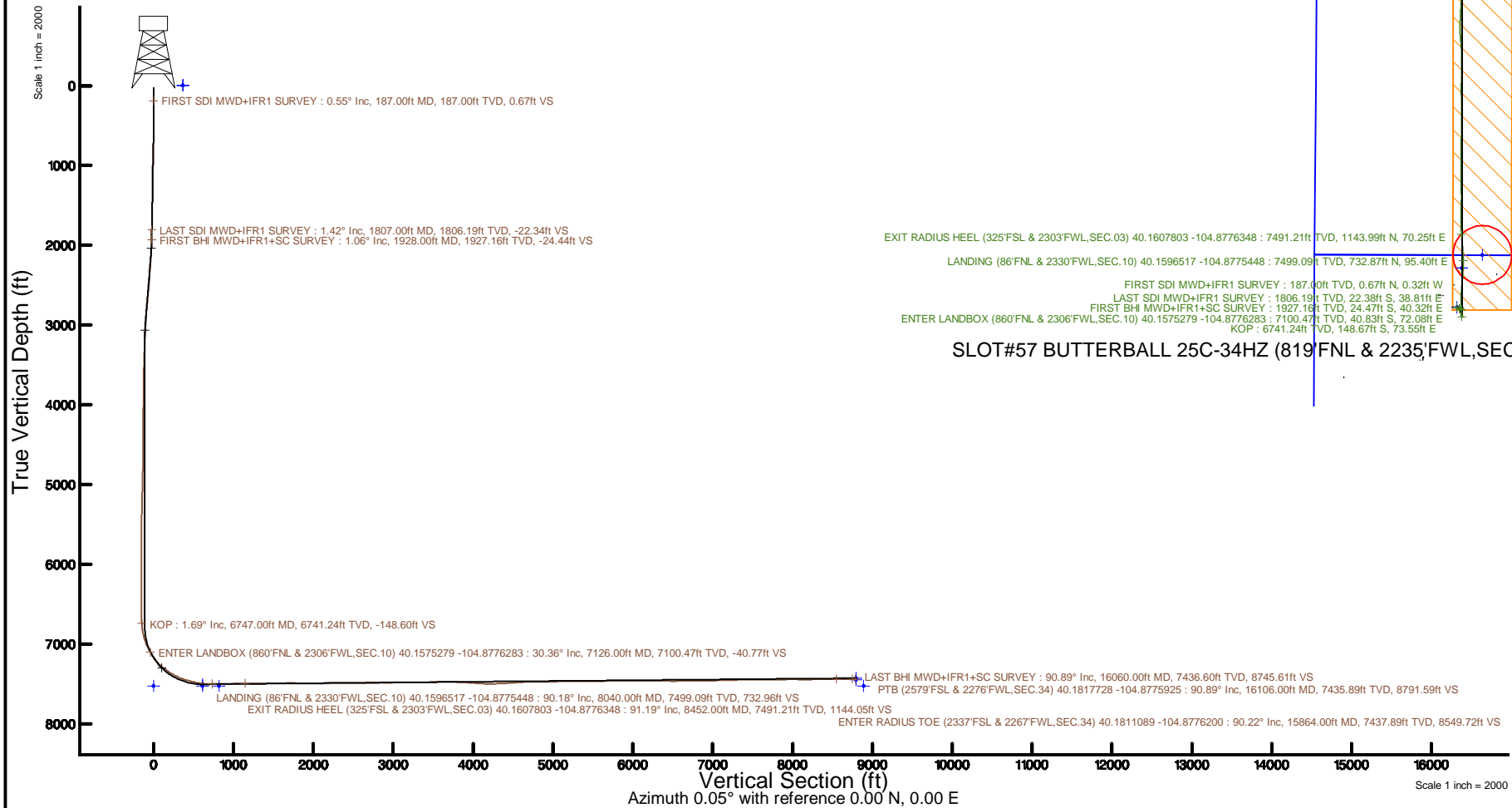


Location:	COLORADO	Slot:	SLOT#57 BUTTERBALL 25C-34HZ (819'FNL & 2235'FWL,SEC.10)
Field:	WELD COUNTY (UTM/TRUE NORTH)	Well:	BUTTERBALL 25C-34HZ
Facility:	SEC.10-T2N-R67W	Wellbore:	BUTTERBALL 25C-34HZ PWB

Plot reference wellpath is BUTTERBALL 250-34HZ PWP Rev-B.0	Grid System: NAD83 / UTM Zone 13 North, US feet
True vertical depths are referenced to NABORS X22 (32) (RT)	* = Wellpath was transformed from a different geoidic datum
Measured depths are referenced to NABORS X22 (32) (RT)	North Reference: True north
NABORS X22 (32) (RT) to Mean Sea Level: 4966 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLO7#57 BUTTERBALL 250-34HZ (819FNL & 2235FWL,SEC.10)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2017-06-21
	Database: WA_DEN_Adnadarko_Defn



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#57 BUTTERBALL 25C-34HZ (819'FNL & 2235'FWL,SEC.10)
Area	COLORADO	Well	BUTTERBALL 25C-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 25C-34HZ AWB
Facility	SEC.10-T2N-R67W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999601	Report Generated	6/21/2017 at 2:42 PM
Convergence at slot	0.08° East	Database/Source file	WA_DEN_Anadarko_Defn/BUTTERBALL_25C-34HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-180.93	289.69	1674536.01	14584160.80	40°09'27.504"N	104°52'40.390"W
Facility Reference Pt			1674246.19	14584341.27	40°09'29.292"N	104°52'44.121"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	NABORS X22 (32') (RT) to Facility Vertical Datum	4966.00ft
Horizontal Reference Pt	Slot	NABORS X22 (32') (RT) to Mean Sea Level	4966.00ft
Vertical Reference Pt	NABORS X22 (32') (RT)	NABORS X22 (32') (RT) to Mud Line at Slot (SLOT#57 BUTTERBALL 25C-34HZ (819'FNL & 2235'FWL,SEC.10))	4966.00ft
MD Reference Pt	NABORS X22 (32') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.05°

Actual Wellpath Report

BUTTERBALL 25C-34HZ AWP

Page 2 of 7

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#57 BUTTERBALL 25C-34HZ (819'FNL & 2235'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 25C-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 25C-34HZ AWP
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (179 stations) † = interpolated/extrapolated station

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS (°/100ft)	Comments
0.00†	0.000	334.100	0.00	0.00	0.00	0.00	1674536.01	14584160.80	40°09'27.504"N	104°52'40.390"W	0.00	
32.00	0.000	334.100	32.00	0.00	0.00	0.00	1674536.01	14584160.80	40°09'27.504"N	104°52'40.390"W	0.00	
187.00	0.550	334.100	187.00	0.67	0.67	-0.32	1674535.69	14584161.47	40°09'27.511"N	104°52'40.394"W	0.35	FIRST SDI MWD+IFR1 SURVEY
300.00	0.520	86.290	299.99	1.19	1.19	-0.05	1674535.96	14584161.99	40°09'27.516"N	104°52'40.391"W	0.79	
389.00	1.290	98.910	388.98	1.06	1.06	1.34	1674537.35	14584161.86	40°09'27.514"N	104°52'40.373"W	0.89	
476.00	2.090	107.000	475.94	0.45	0.45	3.83	1674539.84	14584161.25	40°09'27.508"N	104°52'40.341"W	0.96	
562.00	2.480	95.970	561.88	-0.20	-0.21	7.18	1674543.19	14584160.60	40°09'27.502"N	104°52'40.298"W	0.68	
651.00	2.110	108.040	650.81	-0.90	-0.91	10.65	1674546.66	14584159.90	40°09'27.495"N	104°52'40.253"W	0.68	
740.00	2.000	149.630	739.75	-2.75	-2.76	12.99	1674549.00	14584158.06	40°09'27.477"N	104°52'40.223"W	1.64	
828.00	1.810	149.230	827.70	-5.27	-5.28	14.48	1674550.49	14584155.54	40°09'27.452"N	104°52'40.203"W	0.22	
917.00	1.280	149.140	916.67	-7.33	-7.34	15.71	1674551.72	14584153.48	40°09'27.431"N	104°52'40.188"W	0.60	
1002.00	1.450	145.170	1001.65	-9.02	-9.04	16.81	1674552.83	14584151.79	40°09'27.415"N	104°52'40.173"W	0.23	
1090.00	1.440	117.290	1089.62	-10.44	-10.46	18.43	1674554.45	14584150.37	40°09'27.401"N	104°52'40.153"W	0.79	
1177.00	1.260	87.900	1176.60	-10.91	-10.93	20.36	1674556.38	14584149.91	40°09'27.396"N	104°52'40.128"W	0.81	
1266.00	1.200	116.600	1265.58	-11.29	-11.31	22.17	1674558.19	14584149.53	40°09'27.392"N	104°52'40.104"W	0.69	
1350.00	1.820	128.960	1349.55	-12.52	-12.54	23.99	1674560.01	14584148.30	40°09'27.380"N	104°52'40.081"W	0.83	
1439.00	2.640	127.690	1438.48	-14.66	-14.68	26.71	1674562.73	14584146.16	40°09'27.359"N	104°52'40.046"W	0.92	
1528.00	3.010	121.940	1527.37	-17.14	-17.17	30.32	1674566.34	14584143.68	40°09'27.334"N	104°52'40.000"W	0.52	
1615.00	1.770	114.930	1614.30	-18.92	-18.95	33.47	1674569.50	14584141.91	40°09'27.317"N	104°52'39.959"W	1.46	
1703.00	2.320	119.560	1702.24	-20.37	-20.40	36.26	1674572.28	14584140.46	40°09'27.302"N	104°52'39.923"W	0.65	
1790.00	1.430	137.650	1789.19	-22.03	-22.07	38.52	1674574.55	14584138.79	40°09'27.286"N	104°52'39.894"W	1.22	
1807.00	1.420	136.090	1806.19	-22.34	-22.38	38.81	1674574.83	14584138.48	40°09'27.283"N	104°52'39.890"W	0.24	LAST SDI MWD+IFR1 SURVEY
1928.00	1.060	154.900	1927.16	-24.44	-24.47	40.32	1674576.35	14584136.39	40°09'27.262"N	104°52'39.871"W	0.45	FIRST BHI MWD+IFR1+SC SURVEY
2021.00	2.930	155.920	2020.10	-27.38	-27.42	41.66	1674577.69	14584133.45	40°09'27.233"N	104°52'39.853"W	2.01	
2115.00	4.470	152.910	2113.90	-32.84	-32.88	44.31	1674580.35	14584128.00	40°09'27.179"N	104°52'39.819"W	1.65	
2209.00	4.170	152.300	2207.63	-39.12	-39.16	47.56	1674583.61	14584121.72	40°09'27.117"N	104°52'39.777"W	0.32	
2303.00	4.940	144.950	2301.34	-45.46	-45.50	51.48	1674587.53	14584115.39	40°09'27.054"N	104°52'39.727"W	1.03	
2397.00	5.240	153.030	2394.97	-52.59	-52.64	55.75	1674591.81	14584108.26	40°09'26.984"N	104°52'39.672"W	0.83	
2490.00	4.730	151.850	2487.61	-59.75	-59.81	59.48	1674595.55	14584101.10	40°09'26.913"N	104°52'39.624"W	0.56	
2584.00	5.970	156.960	2581.20	-67.67	-67.72	63.22	1674599.30	14584093.19	40°09'26.835"N	104°52'39.576"W	1.41	
2677.00	5.370	158.970	2673.75	-76.18	-76.24	66.68	1674602.77	14584084.69	40°09'26.751"N	104°52'39.531"W	0.68	
2771.00	5.060	159.070	2767.36	-84.15	-84.21	69.74	1674605.84	14584076.72	40°09'26.672"N	104°52'39.492"W	0.33	
2865.00	4.370	161.820	2861.04	-91.42	-91.49	72.34	1674608.44	14584069.45	40°09'26.600"N	104°52'39.458"W	0.77	
2959.00	3.780	165.960	2954.80	-97.83	-97.90	74.21	1674610.32	14584063.05	40°09'26.537"N	104°52'39.434"W	0.70	
3052.00	3.170	170.160	3047.63	-103.34	-103.40	75.39	1674611.51	14584057.54	40°09'26.482"N	104°52'39.419"W	0.71	
3147.00	2.680	175.790	3142.51	-108.14	-108.21	76.00	1674612.13	14584052.74	40°09'26.435"N	104°52'39.411"W	0.60	
3240.00	2.160	186.810	3235.42	-112.05	-112.11	75.95	1674612.09	14584048.83	40°09'26.396"N	104°52'39.412"W	0.75	
3334.00	1.860	193.760	3329.37	-115.29	-115.36	75.38	1674611.52	14584045.59	40°09'26.364"N	104°52'39.419"W	0.41	
3428.00	1.920	189.330	3423.32	-118.32	-118.39	74.76	1674610.91	14584042.56	40°09'26.334"N	104°52'39.427"W	0.17	
3522.00	1.720	191.170	3517.27	-121.26	-121.33	74.23	1674610.38	14584039.62	40°09'26.305"N	104°52'39.434"W	0.22	
3615.00	1.700	195.750	3610.23	-123.96	-124.03	73.59	1674609.74	14584036.92	40°09'26.278"N	104°52'39.442"W	0.15	
3709.00	1.870	211.340	3704.18	-126.61	-126.68	72.41	1674608.57	14584034.27	40°09'26.252"N	104°52'39.457"W	0.55	
3803.00	1.450	271.900	3798.15	-127.89	-127.95	70.43	1674606.58	14584033.00	40°09'26.240"N	104°52'39.483"W	1.82	
3896.00	1.780	265.950	3891.11	-127.95	-128.01	67.81	1674603.97	14584032.93	40°09'26.239"N	104°52'39.517"W	0.40	
4015.00	2.250	261.550	4010.04	-128.43	-128.49	63.65	1674599.82	14584032.45	40°09'26.234"N	104°52'39.570"W	0.42	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#57 BUTTERBALL 25C-34HZ (819'FNL & 2235'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 25C-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 25C-34HZ AWP
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (179 stations) † = interpolated/extrapolated station												
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS (°/100ft)	Comments
4109.00	1.760	237.560	4103.98	-129.48	-129.53	60.61	1674596.78	14584031.40	40°09'26.224"N	104°52'39.609"W	1.02	
4202.00	1.660	180.250	4196.95	-131.59	-131.64	59.40	1674595.57	14584029.29	40°09'26.203"N	104°52'39.625"W	1.77	
4296.00	1.420	130.520	4290.92	-133.71	-133.76	60.28	1674596.45	14584027.17	40°09'26.182"N	104°52'39.614"W	1.40	
4390.00	0.570	73.010	4384.90	-134.33	-134.38	61.61	1674597.78	14584026.56	40°09'26.176"N	104°52'39.596"W	1.29	
4483.00	0.370	358.500	4477.90	-133.89	-133.95	62.05	1674598.22	14584026.99	40°09'26.180"N	104°52'39.591"W	0.64	
4576.00	1.980	98.790	4570.88	-133.84	-133.89	63.63	1674599.80	14584027.05	40°09'26.181"N	104°52'39.571"W	2.23	
4670.00	1.770	97.800	4664.83	-134.28	-134.34	66.67	1674602.84	14584026.61	40°09'26.176"N	104°52'39.531"W	0.23	
4764.00	1.610	92.350	4758.79	-134.53	-134.59	69.43	1674605.60	14584026.36	40°09'26.174"N	104°52'39.496"W	0.24	
4857.00	2.660	120.660	4851.73	-135.68	-135.74	72.59	1674608.76	14584025.21	40°09'26.163"N	104°52'39.455"W	1.57	
4951.00	2.280	123.450	4945.64	-137.82	-137.89	76.03	1674612.20	14584023.07	40°09'26.141"N	104°52'39.411"W	0.42	
5045.00	2.410	134.880	5039.56	-140.24	-140.31	78.99	1674615.16	14584020.65	40°09'26.117"N	104°52'39.373"W	0.52	
5139.00	2.050	142.790	5133.49	-142.97	-143.04	81.40	1674617.58	14584017.92	40°09'26.090"N	104°52'39.342"W	0.50	
5232.00	1.740	144.880	5226.44	-145.45	-145.52	83.22	1674619.40	14584015.45	40°09'26.066"N	104°52'39.318"W	0.34	
5326.00	1.420	141.020	5320.40	-147.52	-147.60	84.77	1674620.95	14584013.38	40°09'26.045"N	104°52'39.298"W	0.36	
5420.00	1.770	198.290	5414.37	-149.81	-149.88	85.05	1674621.23	14584011.10	40°09'26.023"N	104°52'39.295"W	1.66	
5514.00	1.380	196.740	5508.34	-152.27	-152.34	84.27	1674620.46	14584008.63	40°09'25.999"N	104°52'39.305"W	0.42	
5607.00	1.450	253.010	5601.31	-153.69	-153.76	82.82	1674619.01	14584007.22	40°09'25.985"N	104°52'39.323"W	1.44	
5701.00	1.030	299.420	5695.29	-153.62	-153.69	80.95	1674617.14	14584007.28	40°09'25.985"N	104°52'39.347"W	1.12	
5795.00	0.790	289.550	5789.28	-152.99	-153.06	79.60	1674615.79	14584007.91	40°09'25.991"N	104°52'39.365"W	0.30	
5888.00	0.580	284.230	5882.27	-152.66	-152.73	78.54	1674614.73	14584008.24	40°09'25.995"N	104°52'39.378"W	0.24	
5982.00	0.620	296.450	5976.27	-152.32	-152.39	77.63	1674613.81	14584008.58	40°09'25.998"N	104°52'39.390"W	0.14	
6075.00	0.410	285.750	6069.27	-152.00	-152.07	76.85	1674613.04	14584008.89	40°09'26.001"N	104°52'39.400"W	0.25	
6169.00	0.310	279.240	6163.26	-151.87	-151.94	76.28	1674612.47	14584009.03	40°09'26.003"N	104°52'39.408"W	0.11	
6263.00	0.550	294.570	6257.26	-151.64	-151.71	75.62	1674611.81	14584009.25	40°09'26.005"N	104°52'39.416"W	0.28	
6356.00	0.470	299.330	6350.26	-151.27	-151.34	74.88	1674611.07	14584009.62	40°09'26.008"N	104°52'39.426"W	0.10	
6450.00	0.400	330.540	6444.25	-150.80	-150.86	74.38	1674610.57	14584010.10	40°09'26.013"N	104°52'39.432"W	0.26	
6544.00	0.430	358.670	6538.25	-150.16	-150.23	74.21	1674610.40	14584010.74	40°09'26.019"N	104°52'39.434"W	0.22	
6638.00	0.460	330.540	6632.25	-149.48	-149.54	74.02	1674610.21	14584011.42	40°09'26.026"N	104°52'39.437"W	0.23	
6732.00	0.440	321.370	6726.25	-148.87	-148.93	73.61	1674609.79	14584012.03	40°09'26.032"N	104°52'39.442"W	0.08	
6747.00†	1.690	355.241	6741.24	-148.60	-148.67	73.55	1674609.74	14584012.29	40°09'26.035"N	104°52'39.443"W	8.98	KOP
6825.00	8.670	3.710	6818.88	-141.58	-141.65	73.84	1674610.02	14584019.31	40°09'26.104"N	104°52'39.439"W	8.98	
6918.00	15.970	5.710	6909.68	-121.83	-121.90	75.57	1674611.72	14584039.06	40°09'26.299"N	104°52'39.417"W	7.86	
7011.00	22.270	0.700	6997.51	-91.44	-91.51	77.06	1674613.16	14584069.43	40°09'26.600"N	104°52'39.398"W	6.99	
7104.00	28.960	350.930	7081.36	-51.53	-51.59	73.72	1674609.77	14584109.33	40°09'26.994"N	104°52'39.441"W	8.49	
7126.00†	30.360	351.698	7100.47	-40.77	-40.83	72.08	1674608.11	14584120.08	40°09'27.100"N	104°52'39.462"W	6.60	ENTER LANDBOX (860'FNL & 2306'FWL,SEC.10) 40.1575279 -104.8776283
7198.00	34.970	353.820	7161.07	-2.23	-2.29	67.23	1674603.21	14584158.60	40°09'27.481"N	104°52'39.524"W	6.60	
7291.00	42.630	357.550	7233.51	55.82	55.76	63.00	1674598.91	14584216.63	40°09'28.055"N	104°52'39.579"W	8.61	
7384.00	50.890	0.240	7297.17	123.49	123.43	61.81	1674597.62	14584284.27	40°09'28.724"N	104°52'39.594"W	9.13	
7478.00	56.040	3.330	7353.12	198.94	198.88	64.22	1674599.94	14584359.69	40°09'29.469"N	104°52'39.563"W	6.08	
7571.00	64.690	5.000	7399.06	279.48	279.42	70.14	1674605.74	14584440.20	40°09'30.265"N	104°52'39.487"W	9.43	
7664.00	70.950	4.990	7434.15	365.23	365.17	77.63	1674613.11	14584525.93	40°09'31.113"N	104°52'39.390"W	6.73	
7758.00	75.400	3.480	7461.36	454.95	454.87	84.26	1674619.62	14584615.60	40°09'31.999"N	104°52'39.305"W	4.98	
7852.00	77.620	3.320	7483.28	546.19	546.11	89.68	1674624.91	14584706.82	40°09'32.901"N	104°52'39.235"W	2.37	
7946.00	86.430	3.050	7496.31	639.05	638.97	94.85	1674629.94	14584799.64	40°09'33.818"N	104°52'39.168"W	9.38	
8040.00	90.180	357.630	7499.09	732.96	732.87	95.40	1674630.37	14584893.51	40°09'34.746"N	104°52'39.161"W	7.01	LANDING (86'FNL & 2330'FWL,SEC.10) 40.1596517 -104.8775448

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)		Slot	SLOT#57 BUTTERBALL 25C-34HZ (819'FNL & 2235'FWL, SEC.10)
Area	COLORADO		Well	BUTTERBALL 25C-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)		Wellbore	BUTTERBALL 25C-34HZ AWP
Facility	SEC.10-T2N-R67W			

WELLPATH DATA (179 stations) † = interpolated/extrapolated station												
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS °/100ft	Comments
8134.00	90.460	356.660	7498.57	826.83	826.75	90.72	1674625.56	14584987.35	40°09'35.674"N	104°52'39.222"W	1.07	
8228.00	91.110	356.930	7497.28	920.67	920.60	85.46	1674620.18	14585081.14	40°09'36.601"N	104°52'39.289"W	0.75	
8321.00	91.480	356.310	7495.18	1013.48	1013.41	79.98	1674614.57	14585173.91	40°09'37.519"N	104°52'39.360"W	0.78	
8415.00	92.070	355.310	7492.27	1107.18	1107.11	73.12	1674607.58	14585267.57	40°09'38.445"N	104°52'39.448"W	1.23	
8452.00†	91.194	355.789	7491.21	1144.05	1143.99	70.25	1674604.66	14585304.42	40°09'38.809"N	104°52'39.485"W	2.70	EXIT RADIUS HEEL (325'FSL & 2303'FWL, SEC.03) 40.1607803 -104.8776348
8510.00	89.820	356.540	7490.70	1201.91	1201.85	66.37	1674600.70	14585362.26	40°09'39.381"N	104°52'39.535"W	2.70	
8603.00	89.010	358.300	7491.65	1294.80	1294.75	62.18	1674596.39	14585455.11	40°09'40.299"N	104°52'39.589"W	2.08	
8696.00	89.880	358.680	7492.55	1387.76	1387.71	59.73	1674593.81	14585548.04	40°09'41.217"N	104°52'39.621"W	1.02	
8790.00	90.620	2.010	7492.14	1481.75	1481.69	60.30	1674594.25	14585641.98	40°09'42.146"N	104°52'39.613"W	3.63	
8884.00	91.260	2.010	7490.60	1575.68	1575.62	63.59	1674597.42	14585735.88	40°09'43.074"N	104°52'39.571"W	0.68	
8977.00	91.360	1.630	7488.47	1668.61	1668.55	66.55	1674600.24	14585828.77	40°09'43.993"N	104°52'39.533"W	0.42	
9070.00	88.620	358.780	7488.49	1761.59	1761.53	66.88	1674600.44	14585921.72	40°09'44.912"N	104°52'39.529"W	4.25	
9164.00	89.050	358.360	7490.40	1855.54	1855.48	64.54	1674597.97	14586015.63	40°09'45.840"N	104°52'39.559"W	0.64	
9255.00	90.000	0.740	7491.15	1946.53	1946.47	63.82	1674597.13	14586106.58	40°09'46.739"N	104°52'39.568"W	2.82	
9347.00	90.400	0.240	7490.83	2038.52	2038.47	64.61	1674597.79	14586198.54	40°09'47.648"N	104°52'39.558"W	0.70	
9440.00	90.770	359.550	7489.88	2131.52	2131.46	64.44	1674597.49	14586291.49	40°09'48.567"N	104°52'39.560"W	0.84	
9531.00	91.140	359.090	7488.37	2222.50	2222.44	63.36	1674596.29	14586382.43	40°09'49.466"N	104°52'39.574"W	0.65	
9622.00	91.570	358.850	7486.21	2313.45	2313.40	61.72	1674594.53	14586473.36	40°09'50.365"N	104°52'39.595"W	0.54	
9715.00	90.030	1.000	7484.92	2406.44	2406.38	61.60	1674594.28	14586566.30	40°09'51.284"N	104°52'39.597"W	2.84	
9807.00	90.030	0.590	7484.87	2498.43	2498.37	62.88	1674595.43	14586658.26	40°09'52.193"N	104°52'39.580"W	0.45	
9898.00	91.290	1.690	7483.82	2589.40	2589.35	64.69	1674597.11	14586749.20	40°09'53.092"N	104°52'39.557"W	1.84	
9989.00	92.030	2.050	7481.18	2680.32	2680.26	67.66	1674599.96	14586840.08	40°09'53.990"N	104°52'39.519"W	0.90	
10080.00	88.890	0.840	7480.45	2771.27	2771.21	69.95	1674602.13	14586931.00	40°09'54.889"N	104°52'39.489"W	3.70	
10174.00	88.370	359.680	7482.70	2865.25	2865.18	70.38	1674602.42	14587024.93	40°09'55.818"N	104°52'39.483"W	1.35	
10268.00	91.510	0.660	7482.80	2959.23	2959.17	70.65	1674602.57	14587118.88	40°09'56.747"N	104°52'39.480"W	3.50	
10362.00	92.620	0.610	7479.41	3053.16	3053.10	71.70	1674603.48	14587212.77	40°09'57.675"N	104°52'39.466"W	1.18	
10456.00	89.230	359.120	7477.89	3147.14	3147.07	71.47	1674603.13	14587306.71	40°09'58.604"N	104°52'39.469"W	3.94	
10548.00	89.850	358.550	7478.63	3239.11	3239.05	69.60	1674601.14	14587398.65	40°09'59.512"N	104°52'39.493"W	0.92	
10642.00	91.200	357.870	7477.77	3333.06	3333.00	66.67	1674598.07	14587492.55	40°10'00.441"N	104°52'39.531"W	1.61	
10735.00	91.110	0.750	7475.90	3426.02	3425.96	65.55	1674596.83	14587585.48	40°10'01.360"N	104°52'39.546"W	3.10	
10829.00	92.090	0.690	7473.27	3519.98	3519.92	66.73	1674597.88	14587679.40	40°10'02.288"N	104°52'39.530"W	1.04	
10923.00	90.960	2.290	7470.77	3613.91	3613.85	69.17	1674600.19	14587773.29	40°10'03.216"N	104°52'39.499"W	2.08	
11016.00	88.550	1.210	7471.17	3706.86	3706.80	72.01	1674602.90	14587866.21	40°10'04.135"N	104°52'39.462"W	2.84	
11109.00	86.240	0.160	7475.39	3799.75	3799.68	73.12	1674603.89	14587959.06	40°10'05.053"N	104°52'39.448"W	2.73	
11203.00	87.840	359.100	7480.25	3893.62	3893.55	72.52	1674603.15	14588052.89	40°10'05.980"N	104°52'39.456"W	2.04	
11296.00	86.210	358.330	7485.08	3986.46	3986.40	70.43	1674600.94	14588145.70	40°10'06.898"N	104°52'39.483"W	1.94	
11389.00	85.370	355.190	7491.90	4079.05	4078.99	65.19	1674595.58	14588238.24	40°10'07.813"N	104°52'39.550"W	3.49	
11483.00	88.980	355.700	7496.54	4172.61	4172.56	57.74	1674588.00	14588331.77	40°10'08.737"N	104°52'39.646"W	3.88	
11577.00	91.450	355.510	7496.18	4266.32	4266.28	50.54	1674580.67	14588425.43	40°10'09.664"N	104°52'39.739"W	2.64	
11671.00	93.020	359.900	7492.52	4360.15	4360.11	46.78	1674576.78	14588519.22	40°10'10.591"N	104°52'39.787"W	4.96	
11764.00	94.040	2.330	7486.79	4452.94	4452.90	48.58	1674578.45	14588611.98	40°10'11.508"N	104°52'39.764"W	2.83	
11858.00	93.730	2.090	7480.42	4546.66	4546.62	52.20	1674581.94	14588705.66	40°10'12.434"N	104°52'39.718"W	0.42	
11951.00	92.990	3.730	7474.97	4639.38	4639.33	56.91	1674586.52	14588798.35	40°10'13.350"N	104°52'39.657"W	1.93	
12045.00	89.750	3.750	7472.72	4733.15	4733.09	63.04	1674592.52	14588892.08	40°10'14.277"N	104°52'39.578"W	3.45	
12139.00	91.320	4.310	7471.84	4826.91	4826.85	69.65	1674599.00	14588985.81	40°10'15.203"N	104°52'39.493"W	1.77	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#57 BUTTERBALL 25C-34HZ (819'FNL & 2235'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 25C-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 25C-34HZ AWP
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (179 stations) † = interpolated/extrapolated station												
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS °/(100ft)	Comments
12233.00	90.370	3.170	7470.46	4920.71	4920.64	75.78	1674605.00	14589079.57	40°10'16.130"N	104°52'39.414"W	1.58	
12326.00	91.140	2.500	7469.23	5013.59	5013.52	80.38	1674609.47	14589172.42	40°10'17.048"N	104°52'39.355"W	1.10	
12421.00	90.060	1.450	7468.24	5108.53	5108.45	83.65	1674612.61	14589267.32	40°10'17.986"N	104°52'39.312"W	1.59	
12515.00	91.750	1.450	7466.75	5202.48	5202.41	86.03	1674614.86	14589361.24	40°10'18.914"N	104°52'39.282"W	1.80	
12609.00	89.080	359.520	7466.07	5296.47	5296.39	86.82	1674615.52	14589455.18	40°10'19.843"N	104°52'39.272"W	3.50	
12702.00	90.520	0.010	7466.40	5389.46	5389.39	86.44	1674615.01	14589548.14	40°10'20.762"N	104°52'39.276"W	1.64	
12796.00	91.910	0.000	7464.40	5483.44	5483.36	86.45	1674614.89	14589642.08	40°10'21.691"N	104°52'39.276"W	1.48	
12890.00	90.180	1.600	7462.69	5577.41	5577.33	87.76	1674616.07	14589736.01	40°10'22.619"N	104°52'39.259"W	2.51	
12983.00	91.200	1.780	7461.57	5670.36	5670.28	90.50	1674618.69	14589828.93	40°10'23.538"N	104°52'39.224"W	1.11	
13076.00	89.630	1.250	7460.90	5763.32	5763.24	92.96	1674621.02	14589921.86	40°10'24.457"N	104°52'39.192"W	1.78	
13169.00	90.650	1.310	7460.67	5856.30	5856.22	95.04	1674622.97	14590014.80	40°10'25.375"N	104°52'39.166"W	1.10	
13262.00	91.880	1.260	7458.62	5949.26	5949.17	97.13	1674624.92	14590107.72	40°10'26.294"N	104°52'39.139"W	1.32	
13356.00	90.370	0.310	7456.77	6043.23	6043.14	98.41	1674626.08	14590201.65	40°10'27.223"N	104°52'39.122"W	1.90	
13449.00	89.480	0.160	7456.89	6136.22	6136.14	98.79	1674626.33	14590294.61	40°10'28.142"N	104°52'39.117"W	0.97	
13542.00	88.090	358.530	7458.86	6229.19	6229.11	97.73	1674625.15	14590387.54	40°10'29.060"N	104°52'39.131"W	2.30	
13636.00	89.080	358.090	7461.19	6323.12	6323.04	94.96	1674622.25	14590481.43	40°10'29.988"N	104°52'39.167"W	1.15	
13730.00	89.910	357.420	7462.01	6417.04	6416.96	91.28	1674618.44	14590575.31	40°10'30.917"N	104°52'39.214"W	1.13	
13823.00	89.880	356.560	7462.18	6509.90	6509.83	86.39	1674613.43	14590668.13	40°10'31.834"N	104°52'39.277"W	0.93	
13918.00	91.170	359.950	7461.31	6604.84	6604.77	83.50	1674610.41	14590763.03	40°10'32.773"N	104°52'39.314"W	3.82	
14011.00	91.880	359.390	7458.84	6697.80	6697.73	82.97	1674609.74	14590855.95	40°10'33.691"N	104°52'39.321"W	0.97	
14105.00	90.150	0.410	7457.17	6791.78	6791.71	82.80	1674609.45	14590949.90	40°10'34.620"N	104°52'39.323"W	2.14	
14199.00	89.720	359.770	7457.28	6885.78	6885.71	82.95	1674609.47	14591043.86	40°10'35.549"N	104°52'39.321"W	0.82	
14292.00	90.800	359.550	7456.86	6978.78	6978.71	82.40	1674608.79	14591136.82	40°10'36.468"N	104°52'39.328"W	1.19	
14386.00	91.390	359.420	7455.06	7072.75	7072.68	81.55	1674607.82	14591230.76	40°10'37.397"N	104°52'39.339"W	0.64	
14480.00	92.460	359.170	7451.90	7166.69	7166.62	80.40	1674606.53	14591324.65	40°10'38.325"N	104°52'39.354"W	1.17	
14574.00	90.580	0.230	7449.41	7260.65	7260.58	79.91	1674605.91	14591418.58	40°10'39.253"N	104°52'39.361"W	2.30	
14668.00	91.110	359.900	7448.02	7354.64	7354.57	80.01	1674605.89	14591512.53	40°10'40.182"N	104°52'39.359"W	0.66	
14762.00	90.770	358.220	7446.48	7448.61	7448.54	78.47	1674604.22	14591606.46	40°10'41.111"N	104°52'39.379"W	1.82	
14856.00	89.010	356.420	7446.66	7542.50	7542.43	74.08	1674599.70	14591700.30	40°10'42.039"N	104°52'39.436"W	2.68	
14950.00	89.140	357.490	7448.18	7636.34	7636.29	69.08	1674594.58	14591794.11	40°10'42.966"N	104°52'39.500"W	1.15	
15044.00	90.220	358.030	7448.70	7730.27	7730.21	65.41	1674590.77	14591888.00	40°10'43.894"N	104°52'39.547"W	1.28	
15138.00	91.940	359.180	7446.93	7824.21	7824.16	63.12	1674588.36	14591981.91	40°10'44.823"N	104°52'39.577"W	2.20	
15232.00	93.540	358.560	7442.44	7918.08	7918.03	61.27	1674586.38	14592075.74	40°10'45.750"N	104°52'39.601"W	1.83	
15326.00	88.310	359.450	7440.92	8012.02	8011.97	59.64	1674584.62	14592169.64	40°10'46.679"N	104°52'39.622"W	5.64	
15420.00	89.380	1.840	7442.82	8105.99	8105.94	60.70	1674585.55	14592263.57	40°10'47.607"N	104°52'39.608"W	2.79	
15515.00	90.520	1.890	7442.90	8200.94	8200.89	63.79	1674588.51	14592358.48	40°10'48.545"N	104°52'39.568"W	1.20	
15609.00	92.090	1.310	7440.76	8294.88	8294.82	66.41	1674591.00	14592452.38	40°10'49.474"N	104°52'39.534"W	1.78	
15703.00	90.990	1.640	7438.23	8388.81	8388.76	68.83	1674593.29	14592546.28	40°10'50.402"N	104°52'39.503"W	1.22	
15798.00	89.570	2.180	7437.77	8483.76	8483.70	72.00	1674596.32	14592641.19	40°10'51.340"N	104°52'39.462"W	1.60	
15864.00†	90.223	1.903	7437.89	8549.72	8549.66	74.35	1674598.58	14592707.13	40°10'51.992"N	104°52'39.432"W	1.07	ENTER RADIUS TOE (2337'FSL & 2267'FWL, SEC.34) 40.1811089 -104.8776200
15891.00	90.490	1.790	7437.72	8576.71	8576.64	75.22	1674599.42	14592734.10	40°10'52.259"N	104°52'39.421"W	1.07	
15985.00	90.090	2.100	7437.25	8670.65	8670.59	78.41	1674602.48	14592828.01	40°10'53.187"N	104°52'39.380"W	0.54	
16060.00	90.890	1.540	7436.60	8745.61	8745.55	80.79	1674604.76	14592902.94	40°10'53.928"N	104°52'39.349"W	1.30	LAST BHI MWD+IFR1+SC SURVEY
16106.00	90.890	1.540	7435.89	8791.59	8791.52	82.03	1674605.93	14592948.90	40°10'54.382"N	104°52'39.333"W	0.00	PTB (2579'FSL & 2276'FWL, SEC.34) 40.1817728 -104.8775925

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#57 BUTTERBALL 25C-34HZ (819'FNL & 2235'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 25C-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 25C-34HZ AWB
Facility	SEC.10-T2N-R67W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.03-T2N-R67W	-6.00	367.60	-1855.12	1672681.13	14584525.71	40°09'31.136"N	104°53'04.283"W	polygon
SEC.10-T2N-R67W	-6.00	367.60	-1855.12	1672681.13	14584525.71	40°09'31.136"N	104°53'04.283"W	polygon
SEC.34-T3N-R67W	-6.00	367.60	-1855.12	1672681.13	14584525.71	40°09'31.136"N	104°53'04.283"W	polygon
BUTTERBALL 25C-34HZ BHL REV-2(2582'FSL & 2277'FWL, SEC.34)	7426.00	8794.51	83.02	1674606.91	14592951.89	40°10'54.412"N	104°52'39.320"W	point
BUTTERBALL 25C-34HZ BHL REV-1(2582'FSL & 2277'FWL, SEC.34)	7446.00	8794.51	83.02	1674606.91	14592951.89	40°10'54.412"N	104°52'39.320"W	point
BUTTERBALL 25C-34HZ HEEL REV-2(207'FNL & 2308'FWL, SEC.10)	7503.00	612.38	75.78	1674610.92	14584773.04	40°09'33.556"N	104°52'39.414"W	point
BUTTERBALL 25C-34HZ HEEL REV-1(207'FNL & 2308'FWL, SEC.10)	7523.00	612.38	75.78	1674610.92	14584773.04	40°09'33.556"N	104°52'39.414"W	point
BUTTERBALL 25C-34HZ LANDBOX	7523.00	0.00	0.00	1674536.01	14584160.80	40°09'27.504"N	104°52'40.390"W	polygon
BUTTERBALL 25C-34HZ RADIUS 1	7523.00	818.49	393.87	1674928.60	14584979.50	40°09'35.592"N	104°52'35.317"W	polygon
BUTTERBALL 25C-34HZ RADIUS 2	7523.00	8890.24	385.06	1674908.70	14593048.00	40°10'55.358"N	104°52'35.429"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: BUTTERBALL 25C-34HZ AWB					Ref Wellpath: BUTTERBALL 25C-34HZ AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore	
32.00	1807.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	SDI Custom APC ISCWSA Rev-2 MWD+IFR1 <187 - 1807>		BUTTERBALL 25C-34HZ AWB	
1807.00	16060.00	Custom APC ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHI Custom APC ISCWSA Rev-2 MWD+IFR1+SC <1928 - 16060>		BUTTERBALL 25C-34HZ AWB	
16060.00	16106.00	Blind Drilling (std)	Projection to bit		BUTTERBALL 25C-34HZ AWB	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#57 BUTTERBALL 25C-34HZ (819'FNL & 2235'FWL,SEC.10)
Area	COLORADO	Well	BUTTERBALL 25C-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 25C-34HZ AWP
Facility	SEC.10-T2N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
187.00	0.550	334.100	187.00	FIRST SDI MWD+IFR1 SURVEY
1807.00	1.420	136.090	1806.19	LAST SDI MWD+IFR1 SURVEY
1928.00	1.060	154.900	1927.16	FIRST BHI MWD+IFR1+SC SURVEY
6747.00	1.690	355.241	6741.24	KOP
7126.00	30.360	351.698	7100.47	ENTER LANDBOX (860'FNL & 2306'FWL,SEC.10) 40.1575279 -104.8776283
8040.00	90.180	357.630	7499.09	LANDING (86'FNL & 2330'FWL,SEC.10) 40.1596517 -104.8775448
8452.00	91.194	355.789	7491.21	EXIT RADIUS HEEL (325'FSL & 2303'FWL,SEC.03) 40.1607803 -104.8776348
15864.00	90.223	1.903	7437.89	ENTER RADIUS TOE (2337'FSL & 2267'FWL,SEC.34) 40.1811089 -104.8776200
16060.00	90.890	1.540	7436.60	LAST BHI MWD+IFR1+SC SURVEY
16106.00	90.890	1.540	7435.89	PTB (2579'FSL & 2276'FWL,SEC.34) 40.1817728 -104.8775925