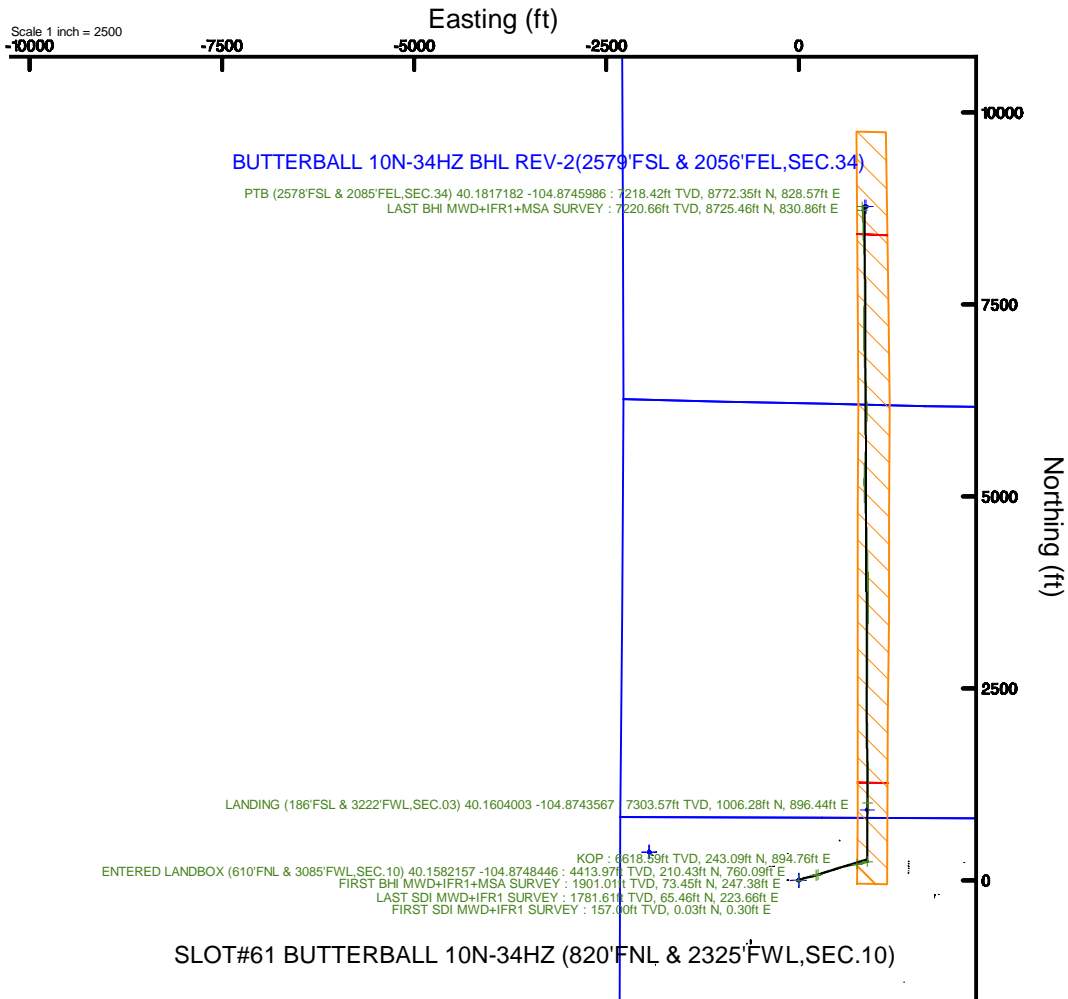
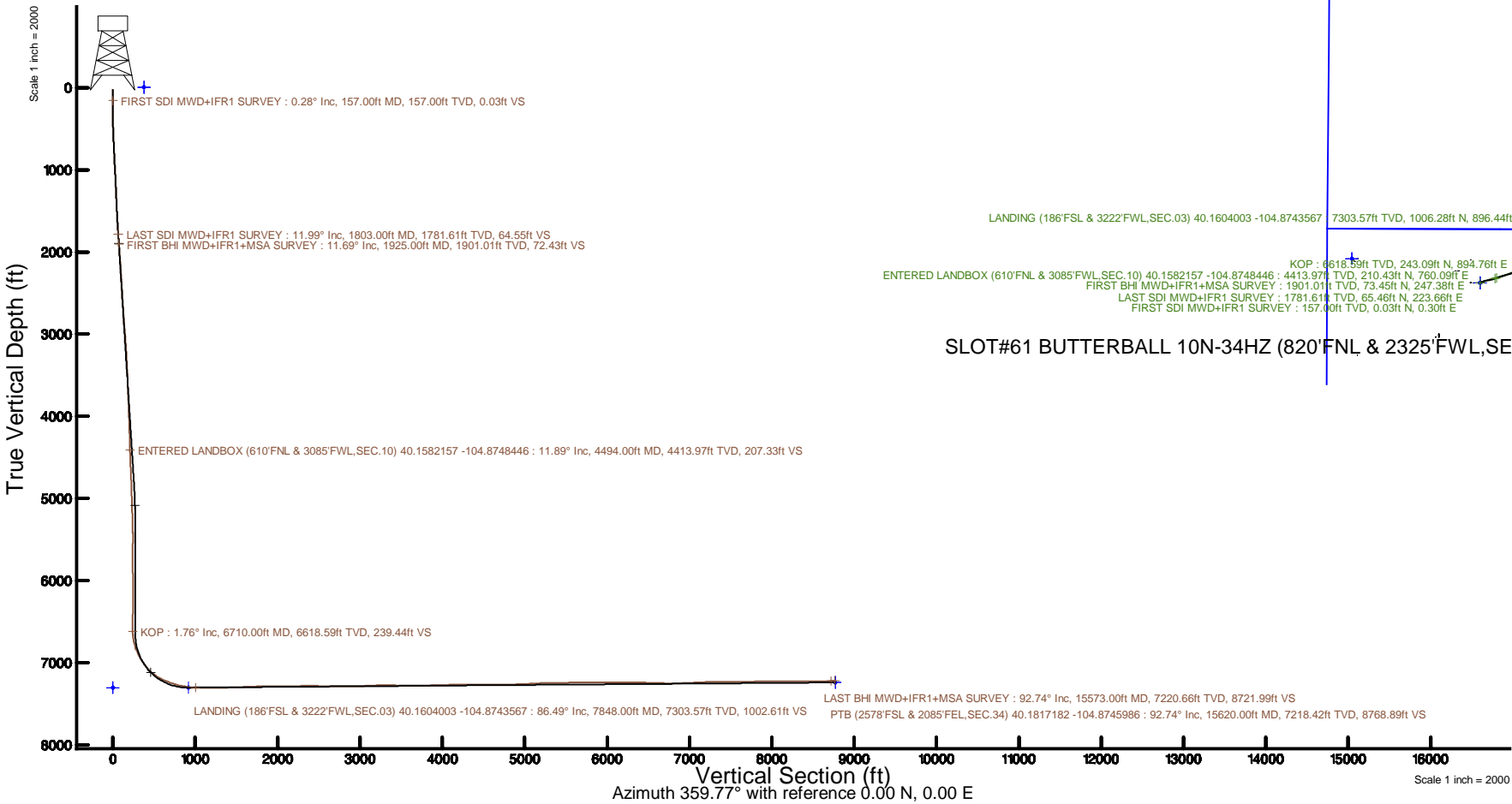


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO	Slot: SLOT#61 BUTTERBALL 10N-34HZ (820'FNL & 2325'FWL,SEC.10)
Field: WELD COUNTY (UTM/TRUE NORTH)	Well: BUTTERBALL 10N-34HZ
Facility: SEC.10-T2N-R67W	Wellbore: BUTTERBALL 10N-34HZ PWB
Plot reference wellpath is BUTTERBALL 10N-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 geodetic 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: SLOT#61 BUTTERBALL 10N-34HZ (820'FNL & 2325'FWL,SEC.10): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2017-06-02
	Database: WA_DEN_Anadarko_Defn



Actual Wellpath Report

BUTTERBALL 10N-34HZ AWP

Page 1 of 7

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#61 BUTTERBALL 10N-34HZ (820'FNL & 2325'FWL,SEC.10)
Area	COLORADO	Well	BUTTERBALL 10N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 10N-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	6/2/2017 at 12:50 PM
Convergence at slot	0.08° East	Database/Source file	WA_DEN_Anadarko_Defn/BUTTERBALL_10N-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	-181.64	379.76	1674626.04	14584160.22	40°09'27.497"N	104°52'39.230"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#61 BUTTERBALL 10N-34HZ (820'FNL & 2325'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	359.77°

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#61 BUTTERBALL 10N-34HZ (820'FNL & 2325'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 10N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 10N-34HZ AWB
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (171 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	83.640	0.00	0.00	0.00	0.00	1674626.04	14584160.22	40°09'27.497"N	104°52'39.230"W	0.00	
32.00	0.000	83.640	32.00	0.00	0.00	0.00	1674626.04	14584160.22	40°09'27.497"N	104°52'39.230"W	0.00	
157.00	0.280	83.640	157.00	0.03	0.03	0.30	1674626.35	14584160.25	40°09'27.497"N	104°52'39.226"W	0.22	FIRST SDI MWD+IFR1 SURVEY
212.00	0.270	82.380	212.00	0.06	0.07	0.57	1674626.61	14584160.28	40°09'27.498"N	104°52'39.223"W	0.02	
300.00	1.070	85.530	299.99	0.15	0.16	1.59	1674627.63	14584160.38	40°09'27.499"N	104°52'39.210"W	0.91	
389.00	1.950	88.610	388.96	0.24	0.26	3.93	1674629.97	14584160.48	40°09'27.500"N	104°52'39.179"W	0.99	
476.00	3.340	67.820	475.87	1.22	1.25	7.76	1674633.80	14584161.48	40°09'27.509"N	104°52'39.130"W	1.92	
607.00	5.840	63.050	606.44	5.64	5.71	17.24	1674643.26	14584165.95	40°09'27.553"N	104°52'39.008"W	1.93	
695.00	5.750	57.650	693.99	10.00	10.10	24.95	1674650.97	14584170.35	40°09'27.597"N	104°52'38.909"W	0.63	
784.00	6.330	71.350	782.50	13.92	14.06	33.37	1674659.38	14584174.31	40°09'27.636"N	104°52'38.800"W	1.74	
873.00	7.890	69.470	870.81	17.59	17.77	43.74	1674669.74	14584178.04	40°09'27.673"N	104°52'38.667"W	1.77	
959.00	9.210	65.170	955.85	22.50	22.73	55.51	1674681.50	14584183.01	40°09'27.722"N	104°52'38.515"W	1.70	
1046.00	10.450	72.390	1041.58	27.76	28.04	69.35	1674695.33	14584188.34	40°09'27.774"N	104°52'38.337"W	2.01	
1133.00	10.790	77.870	1127.09	31.79	32.14	84.83	1674710.80	14584192.46	40°09'27.815"N	104°52'38.137"W	1.22	
1222.00	11.220	80.160	1214.45	34.95	35.37	101.51	1674727.46	14584195.71	40°09'27.847"N	104°52'37.923"W	0.69	
1308.00	12.100	75.700	1298.68	38.54	39.02	118.49	1674744.43	14584199.39	40°09'27.883"N	104°52'37.704"W	1.46	
1395.00	13.580	77.660	1383.50	42.90	43.46	137.30	1674763.23	14584203.85	40°09'27.926"N	104°52'37.462"W	1.77	
1484.00	13.000	79.560	1470.12	46.86	47.51	157.36	1674783.27	14584207.92	40°09'27.966"N	104°52'37.203"W	0.82	
1572.00	12.600	78.580	1555.93	50.48	51.20	176.50	1674802.40	14584211.64	40°09'28.003"N	104°52'36.957"W	0.52	
1659.00	12.520	72.230	1640.85	55.16	55.96	194.78	1674820.67	14584216.42	40°09'28.050"N	104°52'36.721"W	1.59	
1748.00	12.060	71.150	1727.82	61.04	61.91	212.77	1674838.64	14584222.39	40°09'28.109"N	104°52'36.490"W	0.58	
1803.00	11.990	72.690	1781.61	64.55	65.46	223.66	1674849.52	14584225.96	40°09'28.144"N	104°52'36.349"W	0.60	LAST SDI MWD+IFR1 SURVEY
1925.00	11.690	70.070	1901.01	72.43	73.45	247.38	1674873.22	14584233.97	40°09'28.223"N	104°52'36.044"W	0.50	FIRST BHI MWD+IFR1+MSA SURVEY
2019.00	11.010	68.420	1993.17	78.91	79.99	264.67	1674890.50	14584240.54	40°09'28.287"N	104°52'35.821"W	0.80	
2112.00	11.990	69.100	2084.31	85.55	86.71	281.96	1674907.77	14584247.28	40°09'28.354"N	104°52'35.599"W	1.06	
2206.00	11.230	66.410	2176.38	92.63	93.85	299.47	1674925.26	14584254.44	40°09'28.424"N	104°52'35.373"W	0.99	
2300.00	11.490	75.080	2268.55	98.63	99.93	316.90	1674942.68	14584260.54	40°09'28.484"N	104°52'35.148"W	1.84	
2394.00	10.620	72.850	2360.80	103.53	104.89	334.23	1674959.99	14584265.52	40°09'28.534"N	104°52'34.925"W	1.03	
2488.00	11.340	71.980	2453.08	108.87	110.30	351.29	1674977.04	14584270.96	40°09'28.587"N	104°52'34.706"W	0.79	
2581.00	12.170	76.640	2544.13	113.89	115.40	369.53	1674995.26	14584276.08	40°09'28.637"N	104°52'34.471"W	1.36	
2675.00	14.140	73.600	2635.66	119.34	120.93	390.18	1675015.90	14584281.63	40°09'28.692"N	104°52'34.205"W	2.22	
2769.00	13.180	72.330	2727.00	125.74	127.42	411.41	1675037.11	14584288.16	40°09'28.756"N	104°52'33.931"W	1.07	
2862.00	12.340	71.500	2817.71	132.03	133.80	430.94	1675056.62	14584294.55	40°09'28.819"N	104°52'33.680"W	0.92	
2956.00	13.940	70.620	2909.24	138.90	140.74	451.14	1675076.81	14584301.52	40°09'28.888"N	104°52'33.420"W	1.72	
3049.00	13.130	69.010	2999.66	146.31	148.24	471.57	1675097.22	14584309.05	40°09'28.962"N	104°52'33.156"W	0.96	
3143.00	11.660	68.740	3091.47	153.51	155.51	490.39	1675116.03	14584316.34	40°09'29.034"N	104°52'32.914"W	1.57	
3237.00	13.330	75.920	3183.24	159.51	161.59	509.76	1675135.38	14584322.45	40°09'29.094"N	104°52'32.665"W	2.42	
3331.00	11.830	74.670	3274.98	164.61	166.78	529.57	1675155.17	14584327.65	40°09'29.145"N	104°52'32.410"W	1.62	
3425.00	12.320	74.100	3366.90	169.83	172.07	548.50	1675174.09	14584332.97	40°09'29.197"N	104°52'32.166"W	0.54	
3519.00	11.920	80.580	3458.81	174.09	176.41	567.73	1675193.30	14584337.33	40°09'29.240"N	104°52'31.918"W	1.51	
3612.00	9.930	79.170	3550.12	177.10	179.49	585.08	1675210.64	14584340.44	40°09'29.271"N	104°52'31.695"W	2.16	
3706.00	11.320	75.900	3642.51	180.80	183.26	601.99	1675227.54	14584344.23	40°09'29.308"N	104°52'31.477"W	1.61	
3800.00	11.710	78.830	3734.62	184.82	187.35	620.29	1675245.83	14584348.35	40°09'29.348"N	104°52'31.241"W	0.75	
3893.00	12.350	81.850	3825.57	187.98	190.59	639.40	1675264.92	14584351.61	40°09'29.380"N	104°52'30.995"W	0.97	
3987.00	10.620	80.030	3917.69	190.83	193.52	657.88	1675283.39	14584354.56	40°09'29.409"N	104°52'30.757"W	1.88	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#61 BUTTERBALL 10N-34HZ (820'FNL & 2325'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 10N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 10N-34HZ AWB
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (171 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
4081.00	11.800	78.450	4009.89	194.18	196.94	675.83	1675301.33	14584358.01	40°09'29.443"N	104°52'30.526"W	1.30	
4174.00	12.410	80.110	4100.83	197.72	200.56	694.99	1675320.48	14584361.65	40°09'29.479"N	104°52'30.279"W	0.76	
4267.00	11.390	79.630	4191.83	201.01	203.93	713.87	1675339.34	14584365.05	40°09'29.512"N	104°52'30.036"W	1.10	
4361.00	12.600	82.640	4283.77	203.92	206.91	733.17	1675358.63	14584368.06	40°09'29.542"N	104°52'29.787"W	1.45	
4454.00	11.170	82.760	4374.78	206.28	209.35	752.17	1675377.62	14584370.52	40°09'29.566"N	104°52'29.543"W	1.54	
4494.00†	11.891	81.711	4413.97	207.33	210.43	760.09	1675385.53	14584371.61	40°09'29.576"N	104°52'29.441"W	1.88	ENTERED LANDBOX (610'FNL & 3085'FWL,SEC.10) 40.1582157 -104.8748446
4548.00	12.870	80.480	4466.71	209.08	212.23	771.52	1675396.96	14584373.42	40°09'29.594"N	104°52'29.293"W	1.88	
4641.00	12.100	79.010	4557.51	212.57	215.80	791.31	1675416.74	14584377.02	40°09'29.629"N	104°52'29.038"W	0.90	
4735.00	11.140	78.270	4649.59	216.21	219.52	809.87	1675435.29	14584380.77	40°09'29.666"N	104°52'28.799"W	1.03	
4829.00	9.990	77.410	4741.99	219.77	223.15	826.72	1675452.12	14584384.41	40°09'29.702"N	104°52'28.582"W	1.23	
4923.00	8.610	75.440	4834.75	223.25	226.69	841.49	1675466.88	14584387.98	40°09'29.737"N	104°52'28.392"W	1.51	
5016.00	7.070	74.910	4926.88	226.44	229.93	853.75	1675479.14	14584391.23	40°09'29.769"N	104°52'28.234"W	1.66	
5134.00	6.450	72.940	5044.06	230.23	233.77	867.10	1675492.47	14584395.09	40°09'29.807"N	104°52'28.062"W	0.56	
5228.00	5.510	69.920	5137.55	233.29	236.87	876.39	1675501.75	14584398.20	40°09'29.838"N	104°52'27.943"W	1.05	
5322.00	4.610	67.350	5231.18	236.26	239.87	884.11	1675509.47	14584401.21	40°09'29.867"N	104°52'27.843"W	0.99	
5415.00	3.860	66.620	5323.93	238.91	242.55	890.43	1675515.78	14584403.90	40°09'29.894"N	104°52'27.762"W	0.81	
5509.00	2.400	59.440	5417.78	241.15	244.81	895.03	1675520.38	14584406.16	40°09'29.916"N	104°52'27.702"W	1.61	
5603.00	0.770	140.790	5511.75	241.65	245.32	897.13	1675522.47	14584406.67	40°09'29.921"N	104°52'27.676"W	2.56	
5696.00	0.740	125.500	5604.74	240.82	244.49	898.01	1675523.36	14584405.84	40°09'29.913"N	104°52'27.664"W	0.22	
5790.00	0.720	116.450	5698.74	240.20	243.87	899.03	1675524.38	14584405.23	40°09'29.907"N	104°52'27.651"W	0.12	
5883.00	0.790	90.930	5791.73	239.92	243.60	900.20	1675525.54	14584404.96	40°09'29.904"N	104°52'27.636"W	0.37	
5977.00	1.170	343.790	5885.72	240.83	244.51	900.58	1675525.92	14584405.87	40°09'29.913"N	104°52'27.631"W	1.69	
6071.00	1.760	353.220	5979.69	243.19	246.87	900.14	1675525.48	14584408.22	40°09'29.936"N	104°52'27.637"W	0.68	
6164.00	1.160	251.700	6072.67	244.32	247.99	899.08	1675524.42	14584409.34	40°09'29.947"N	104°52'27.650"W	2.47	
6258.00	1.290	247.340	6166.65	243.62	247.28	897.20	1675522.54	14584408.64	40°09'29.941"N	104°52'27.675"W	0.17	
6352.00	0.920	241.450	6260.63	242.86	246.52	895.56	1675520.90	14584407.87	40°09'29.933"N	104°52'27.696"W	0.41	
6446.00	0.850	219.090	6354.62	241.96	245.61	894.46	1675519.80	14584406.96	40°09'29.924"N	104°52'27.710"W	0.37	
6540.00	1.050	171.940	6448.61	240.57	244.22	894.14	1675519.48	14584405.57	40°09'29.910"N	104°52'27.714"W	0.83	
6633.00	0.990	169.280	6541.59	238.93	242.59	894.41	1675519.76	14584403.94	40°09'29.894"N	104°52'27.711"W	0.08	
6710.00†	1.762	11.013	6618.59	239.44	243.09	894.76	1675520.10	14584404.45	40°09'29.899"N	104°52'27.706"W	3.51	KOP
6726.00	2.320	9.130	6634.57	240.00	243.66	894.85	1675520.20	14584405.01	40°09'29.905"N	104°52'27.705"W	3.51	
6819.00	10.760	359.240	6726.89	250.56	254.21	895.04	1675520.37	14584415.56	40°09'30.009"N	104°52'27.702"W	9.12	
6912.00	18.600	357.800	6816.78	274.10	277.75	894.35	1675519.65	14584439.09	40°09'30.242"N	104°52'27.711"W	8.44	
7005.00	27.040	355.430	6902.43	310.07	313.71	892.09	1675517.35	14584475.03	40°09'30.597"N	104°52'27.740"W	9.13	
7099.00	33.330	0.260	6983.65	357.25	360.89	890.51	1675515.70	14584522.19	40°09'31.063"N	104°52'27.761"W	7.17	
7192.00	40.410	0.300	7058.01	413.01	416.65	890.78	1675515.89	14584577.93	40°09'31.614"N	104°52'27.757"W	7.61	
7286.00	49.050	357.830	7124.73	479.09	482.72	889.59	1675514.62	14584643.97	40°09'32.267"N	104°52'27.772"W	9.37	
7379.00	59.960	0.830	7178.65	554.67	558.31	888.85	1675513.76	14584719.52	40°09'33.014"N	104°52'27.782"W	12.02	
7472.00	67.200	1.770	7220.01	637.87	641.52	890.76	1675515.56	14584802.70	40°09'33.836"N	104°52'27.757"W	7.84	
7566.00	72.700	1.320	7252.22	726.10	729.75	893.13	1675517.81	14584890.91	40°09'34.708"N	104°52'27.727"W	5.87	
7660.00	76.830	0.710	7276.92	816.75	820.42	894.73	1675519.28	14584981.53	40°09'35.604"N	104°52'27.706"W	4.44	
7754.00	82.020	0.740	7294.16	909.11	912.78	895.90	1675520.33	14585073.86	40°09'36.517"N	104°52'27.691"W	5.52	
7848.00	86.490	359.930	7303.57	1002.61	1006.28	896.44	1675520.74	14585167.33	40°09'37.441"N	104°52'27.684"W	4.83	LANDING (186'FSL & 3222'FWL,SEC.03) 40.1604003 -104.8743567
7942.00	90.740	359.810	7305.84	1096.56	1100.23	896.23	1675520.40	14585261.24	40°09'38.369"N	104°52'27.687"W	4.52	
8036.00	90.460	359.760	7304.86	1190.56	1194.23	895.88	1675519.92	14585355.20	40°09'39.298"N	104°52'27.691"W	0.30	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#61 BUTTERBALL 10N-34HZ (820'FNL & 2325'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 10N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 10N-34HZ AWP
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (171 stations)

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
8129.00	90.370	359.720	7304.18	1283.56	1287.22	895.46	1675519.37	14585448.16	40°09'40.217"N	104°52'27.697"W	0.11	
8223.00	92.120	0.390	7302.14	1377.53	1381.20	895.55	1675519.33	14585542.09	40°09'41.146"N	104°52'27.695"W	1.99	
8318.00	91.910	359.740	7298.80	1472.47	1476.14	895.65	1675519.30	14585636.99	40°09'42.084"N	104°52'27.694"W	0.72	
8411.00	92.220	359.610	7295.45	1565.41	1569.08	895.13	1675518.65	14585729.89	40°09'43.003"N	104°52'27.701"W	0.36	
8504.00	92.340	0.050	7291.75	1658.33	1662.00	894.85	1675518.24	14585822.78	40°09'43.921"N	104°52'27.704"W	0.49	
8598.00	92.380	359.000	7287.88	1752.25	1755.92	894.07	1675517.34	14585916.66	40°09'44.849"N	104°52'27.714"W	1.12	
8692.00	90.920	359.180	7285.17	1846.20	1849.86	892.58	1675515.72	14586010.57	40°09'45.777"N	104°52'27.733"W	1.56	
8785.00	90.890	359.110	7283.70	1939.19	1942.84	891.19	1675514.20	14586103.50	40°09'46.696"N	104°52'27.751"W	0.08	
8877.00	90.030	357.290	7282.96	2031.14	2034.79	888.30	1675511.19	14586195.41	40°09'47.605"N	104°52'27.788"W	2.19	
8969.00	90.030	358.290	7282.92	2123.09	2126.72	884.76	1675507.51	14586287.30	40°09'48.513"N	104°52'27.834"W	1.09	
9061.00	90.740	358.760	7282.30	2215.06	2218.69	882.39	1675505.02	14586379.23	40°09'49.422"N	104°52'27.864"W	0.93	
9152.00	91.020	0.340	7280.90	2306.05	2309.67	881.67	1675504.18	14586470.17	40°09'50.321"N	104°52'27.874"W	1.76	
9244.00	89.480	2.060	7280.50	2398.01	2401.64	883.60	1675505.98	14586562.11	40°09'51.230"N	104°52'27.849"W	2.51	
9336.00	89.200	1.520	7281.56	2489.95	2493.59	886.47	1675508.72	14586654.03	40°09'52.139"N	104°52'27.812"W	0.66	
9428.00	89.600	1.660	7282.52	2581.90	2585.55	889.03	1675511.15	14586745.95	40°09'53.047"N	104°52'27.779"W	0.46	
9519.00	89.320	1.550	7283.38	2672.85	2676.51	891.57	1675513.57	14586836.88	40°09'53.946"N	104°52'27.746"W	0.33	
9610.00	89.080	1.450	7284.65	2763.80	2767.47	893.96	1675515.83	14586927.81	40°09'54.845"N	104°52'27.715"W	0.29	
9702.00	90.590	359.970	7284.92	2855.78	2859.46	895.10	1675516.84	14587019.76	40°09'55.754"N	104°52'27.700"W	2.30	
9795.00	90.340	359.980	7284.16	2948.77	2952.45	895.06	1675516.67	14587112.72	40°09'56.673"N	104°52'27.701"W	0.27	
9888.00	92.650	358.900	7281.73	3041.73	3045.41	894.15	1675515.64	14587205.63	40°09'57.592"N	104°52'27.713"W	2.74	
9982.00	92.770	358.830	7277.29	3135.62	3139.29	892.29	1675513.65	14587299.47	40°09'58.519"N	104°52'27.737"W	0.15	
10076.00	91.570	0.510	7273.73	3229.54	3233.21	891.75	1675512.98	14587393.36	40°09'59.448"N	104°52'27.743"W	2.20	
10170.00	89.230	2.580	7273.07	3323.48	3327.16	894.28	1675515.38	14587487.28	40°10'00.376"N	104°52'27.711"W	3.32	
10264.00	88.830	2.850	7274.67	3417.35	3421.04	898.73	1675519.70	14587581.12	40°10'01.304"N	104°52'27.653"W	0.51	
10356.00	88.650	359.650	7276.69	3509.28	3512.99	900.74	1675521.58	14587673.03	40°10'02.212"N	104°52'27.627"W	3.48	
10450.00	88.490	359.500	7279.04	3603.25	3606.96	900.04	1675520.75	14587766.96	40°10'03.141"N	104°52'27.636"W	0.23	
10543.00	91.510	359.810	7279.04	3696.24	3699.94	899.48	1675520.07	14587859.91	40°10'04.060"N	104°52'27.644"W	3.26	
10637.00	91.600	359.250	7276.48	3790.20	3793.91	898.71	1675519.17	14587953.84	40°10'04.988"N	104°52'27.653"W	0.60	
10731.00	91.630	359.180	7273.83	3884.16	3887.86	897.42	1675517.75	14588047.75	40°10'05.917"N	104°52'27.670"W	0.08	
10824.00	91.630	359.120	7271.19	3977.12	3980.81	896.05	1675516.24	14588140.66	40°10'06.835"N	104°52'27.688"W	0.06	
10917.00	91.790	358.670	7268.41	4070.07	4073.75	894.25	1675514.32	14588233.56	40°10'07.754"N	104°52'27.711"W	0.51	
11011.00	89.970	357.630	7266.97	4164.01	4167.69	891.22	1675511.16	14588327.46	40°10'08.682"N	104°52'27.750"W	2.23	
11104.00	90.310	357.580	7266.74	4256.95	4260.61	887.33	1675507.15	14588420.33	40°10'09.600"N	104°52'27.800"W	0.37	
11197.00	91.110	358.730	7265.59	4349.90	4353.55	884.34	1675504.03	14588513.23	40°10'10.519"N	104°52'27.838"W	1.51	
11291.00	89.480	358.650	7265.11	4443.88	4447.52	882.19	1675501.75	14588607.16	40°10'11.447"N	104°52'27.866"W	1.74	
11385.00	89.320	358.540	7266.09	4537.85	4541.49	879.88	1675499.32	14588701.09	40°10'12.376"N	104°52'27.896"W	0.21	
11479.00	89.320	358.570	7267.21	4631.83	4635.45	877.51	1675496.82	14588795.01	40°10'13.305"N	104°52'27.926"W	0.03	
11572.00	91.570	356.680	7266.48	4724.75	4728.36	873.66	1675492.84	14588887.88	40°10'14.223"N	104°52'27.976"W	3.16	
11666.00	91.720	356.350	7263.79	4818.56	4822.14	867.95	1675487.00	14588981.62	40°10'15.149"N	104°52'28.049"W	0.39	
11759.00	91.880	356.410	7260.87	4911.35	4914.91	862.08	1675481.01	14589074.34	40°10'16.066"N	104°52'28.125"W	0.18	
11853.00	92.430	358.190	7257.33	5005.19	5008.74	857.66	1675476.45	14589168.12	40°10'16.993"N	104°52'28.182"W	1.98	
11947.00	92.680	358.030	7253.14	5099.06	5102.59	854.56	1675473.23	14589261.94	40°10'17.921"N	104°52'28.222"W	0.32	
12041.00	93.850	0.360	7247.79	5192.90	5196.42	853.24	1675471.78	14589355.73	40°10'18.848"N	104°52'28.239"W	2.77	
12134.00	91.880	1.080	7243.14	5285.76	5289.29	854.41	1675472.82	14589448.56	40°10'19.766"N	104°52'28.223"W	2.25	
12228.00	89.850	3.530	7241.72	5379.65	5383.20	858.19	1675476.47	14589542.43	40°10'20.694"N	104°52'28.175"W	3.38	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#61 BUTTERBALL 10N-34HZ (820'FNL & 2325'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 10N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 10N-34HZ AWB
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (171 stations)												
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
12323.00	90.000	3.810	7241.84	5474.43	5478.00	864.27	1675482.42	14589637.21	40°10'21.631"N	104°52'28.096"W	0.33	
12417.00	91.290	3.320	7240.78	5568.21	5571.81	870.11	1675488.13	14589730.99	40°10'22.558"N	104°52'28.021"W	1.47	
12510.00	91.170	1.290	7238.79	5661.09	5664.71	873.85	1675491.74	14589823.85	40°10'23.476"N	104°52'27.973"W	2.19	
12603.00	91.910	0.600	7236.29	5754.04	5757.66	875.38	1675493.14	14589916.77	40°10'24.394"N	104°52'27.953"W	1.09	
12697.00	89.020	1.260	7235.53	5848.01	5851.64	876.91	1675494.54	14590010.71	40°10'25.323"N	104°52'27.933"W	3.15	
12791.00	89.350	0.520	7236.86	5941.98	5945.61	878.37	1675495.87	14590104.65	40°10'26.252"N	104°52'27.914"W	0.86	
12884.00	89.780	0.040	7237.57	6034.97	6038.61	878.82	1675496.20	14590197.61	40°10'27.171"N	104°52'27.909"W	0.69	
12977.00	90.490	0.070	7237.35	6127.97	6131.61	878.91	1675496.16	14590290.57	40°10'28.090"N	104°52'27.907"W	0.76	
13070.00	91.050	359.740	7236.10	6220.96	6224.60	878.76	1675495.88	14590383.53	40°10'29.009"N	104°52'27.909"W	0.70	
13164.00	88.310	358.050	7236.62	6314.93	6318.57	876.95	1675493.93	14590477.45	40°10'29.937"N	104°52'27.933"W	3.42	
13257.00	88.150	358.110	7239.50	6407.85	6411.47	873.83	1675490.69	14590570.32	40°10'30.855"N	104°52'27.973"W	0.18	
13350.00	88.370	357.460	7242.32	6500.75	6504.36	870.24	1675486.97	14590663.16	40°10'31.773"N	104°52'28.019"W	0.74	
13444.00	88.210	357.350	7245.13	6594.63	6598.22	865.99	1675482.59	14590756.98	40°10'32.701"N	104°52'28.074"W	0.21	
13538.00	88.400	356.980	7247.91	6688.49	6692.06	861.34	1675477.82	14590850.78	40°10'33.628"N	104°52'28.134"W	0.44	
13631.00	88.950	358.210	7250.06	6781.40	6784.96	857.44	1675473.79	14590943.63	40°10'34.546"N	104°52'28.184"W	1.45	
13726.00	91.660	357.610	7249.55	6876.34	6879.88	853.97	1675470.20	14591038.51	40°10'35.484"N	104°52'28.228"W	2.92	
13819.00	92.900	357.430	7245.85	6969.19	6972.72	849.95	1675466.05	14591131.31	40°10'36.402"N	104°52'28.280"W	1.35	
13913.00	92.680	358.530	7241.28	7063.03	7066.55	846.64	1675462.61	14591225.09	40°10'37.329"N	104°52'28.323"W	1.19	
14007.00	92.960	0.410	7236.65	7156.91	7160.43	845.77	1675461.61	14591318.93	40°10'38.256"N	104°52'28.334"W	2.02	
14100.00	91.760	1.310	7232.82	7249.81	7253.33	847.17	1675462.88	14591411.80	40°10'39.175"N	104°52'28.316"W	1.61	
14194.00	89.480	1.750	7231.80	7343.76	7347.29	849.68	1675465.26	14591505.72	40°10'40.103"N	104°52'28.283"W	2.47	
14288.00	89.910	1.790	7232.30	7437.70	7441.24	852.58	1675468.03	14591599.64	40°10'41.031"N	104°52'28.246"W	0.46	
14382.00	91.600	1.280	7231.07	7531.64	7535.20	855.10	1675470.42	14591693.56	40°10'41.960"N	104°52'28.214"W	1.88	
14476.00	89.780	0.740	7229.93	7625.61	7629.17	856.76	1675471.95	14591787.50	40°10'42.889"N	104°52'28.192"W	2.02	
14570.00	90.590	0.490	7229.63	7719.60	7723.16	857.77	1675472.83	14591881.46	40°10'43.817"N	104°52'28.179"W	0.90	
14664.00	91.940	0.410	7227.56	7813.56	7817.14	858.50	1675473.43	14591975.39	40°10'44.746"N	104°52'28.170"W	1.44	
14758.00	90.060	359.210	7225.91	7907.54	7911.11	858.19	1675472.99	14592069.34	40°10'45.675"N	104°52'28.174"W	2.37	
14852.00	90.770	359.580	7225.23	8001.54	8005.11	857.20	1675471.87	14592163.29	40°10'46.604"N	104°52'28.186"W	0.85	
14946.00	88.860	358.320	7225.54	8095.52	8099.08	855.48	1675470.02	14592257.23	40°10'47.532"N	104°52'28.208"W	2.43	
15040.00	89.350	357.380	7227.01	8189.46	8193.00	851.95	1675466.37	14592351.10	40°10'48.460"N	104°52'28.254"W	1.13	
15134.00	90.120	357.250	7227.44	8283.37	8286.90	847.55	1675461.84	14592444.96	40°10'49.388"N	104°52'28.310"W	0.83	
15228.00	89.570	358.140	7227.69	8377.31	8380.82	843.77	1675457.93	14592538.83	40°10'50.316"N	104°52'28.359"W	1.11	
15323.00	90.340	358.060	7227.77	8472.27	8475.77	840.62	1675454.65	14592633.74	40°10'51.255"N	104°52'28.400"W	0.81	
15417.00	91.420	358.000	7226.33	8566.21	8569.70	837.39	1675451.29	14592727.63	40°10'52.183"N	104°52'28.441"W	1.15	
15573.00	92.740	357.200	7220.66	8721.99	8725.46	830.86	1675444.55	14592883.31	40°10'53.722"N	104°52'28.525"W	0.99	LAST BHI MWD+IFR1+MSA SURVEY
15620.00	92.740	357.200	7218.42	8768.89	8772.35	828.57	1675442.19	14592930.18	40°10'54.185"N	104°52'28.555"W	0.00	PTB (2578'FSL & 2085'FEL, SEC.34) 40.1817182 -104.8745986

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#61 BUTTERBALL 10N-34HZ (820'FNL & 2325'FWL,SEC.10)
Area	COLORADO	Well	BUTTERBALL 10N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 10N-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	368.32	-1945.19	1672681.13	14584525.71	40°09'31.136"N	104°53'04.283"W	polygon
SEC.10-T2N-R67W	-6.00	368.32	-1945.19	1672681.13	14584525.71	40°09'31.136"N	104°53'04.283"W	polygon
SEC.34-T3N-R67W	-6.00	368.32	-1945.19	1672681.13	14584525.71	40°09'31.136"N	104°53'04.283"W	polygon
BUTTERBALL 10N-34HZ BHL REV-1(2579'FSL & 2036'FEL,SEC.34)	7239.00	8773.01	878.18	1675491.79	14592930.91	40°10'54.192"N	104°52'27.916"W	point
BUTTERBALL 10N-34HZ BHL REV-2(2579'FSL & 2056'FEL,SEC.34)	7239.00	8773.01	858.18	1675471.79	14592930.88	40°10'54.192"N	104°52'28.173"W	point
BUTTERBALL 10N-34HZ 460' SETBACK 1	7302.00	0.00	0.00	1674626.04	14584160.22	40°09'27.497"N	104°52'39.230"W	polygon
BUTTERBALL 10N-34HZ 460' SETBACK 2	7302.00	0.00	0.00	1674626.04	14584160.22	40°09'27.497"N	104°52'39.230"W	polygon
BUTTERBALL 10N-34HZ HEEL REV-1(102'FSL & 2030'FEL,SEC.03)	7302.00	917.66	890.20	1675514.62	14585078.73	40°09'36.565"N	104°52'27.764"W	point
BUTTERBALL 10N-34HZ LANDBOX	7302.00	0.00	0.00	1674626.04	14584160.22	40°09'27.497"N	104°52'39.230"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: BUTTERBALL 10N-34HZ AWB				Ref Wellpath: BUTTERBALL 10N-34HZ AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore
32.00	1803.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	SDI Custom APC ISCWSA Rev-2 MWD+IFR1 <157 - 1803>		BUTTERBALL 10N-34HZ AWB
1803.00	15573.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHI Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1925 - 15573>		BUTTERBALL 10N-34HZ AWB
15573.00	15620.00	Blind Drilling (std)	Projection to bit		BUTTERBALL 10N-34HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#61 BUTTERBALL 10N-34HZ (820'FNL & 2325'FWL,SEC.10)
Area	COLORADO	Well	BUTTERBALL 10N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 10N-34HZ AWB
Facility	SEC.10-T2N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
157.00	0.280	83.640	157.00	FIRST SDI MWD+IFR1 SURVEY
1803.00	11.990	72.690	1781.61	LAST SDI MWD+IFR1 SURVEY
1925.00	11.690	70.070	1901.01	FIRST BHI MWD+IFR1+MSA SURVEY
4494.00	11.891	81.711	4413.97	ENTERED LANDBOX (610'FNL & 3085'FWL,SEC.10) 40.1582157 -104.8748446
6710.00	1.762	11.013	6618.59	KOP
7848.00	86.490	359.930	7303.57	LANDING (186'FSL & 3222'FWL,SEC.03) 40.1604003 -104.8743567
15573.00	92.740	357.200	7220.66	LAST BHI MWD+IFR1+MSA SURVEY
15620.00	92.740	357.200	7218.42	PTB (2578'FSL & 2085'FEL,SEC.34) 40.1817182 -104.8745986