

KERR-MCGEE OIL & GAS ONSHORE LP

Location:	COLORADO	Slot:	SLOT#07 BUTTERBALL 4N-15HZ (427' FSL & 585' FWL, SEC.10)
Field:	WELD COUNTY (KERR MCGEE)	Well:	BUTTERBALL 4N-15HZ
Facility:	SEC.10-T2N-R67W	Wellbore:	BUTTERBALL 4N-15HZ PWB

Plot reference wellpath is BUTTERBALL 4N-15HZ (REV-A.0) PWP

True vertical depths are referenced to XTREME 20 (17'KB (RKB))

Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet

Measured depths are referenced to XTREME 20 (17KB (RKB))

North Reference: True north

XTREME 20 (17KB (RKB) to Mean Sea Level: 5013 feet

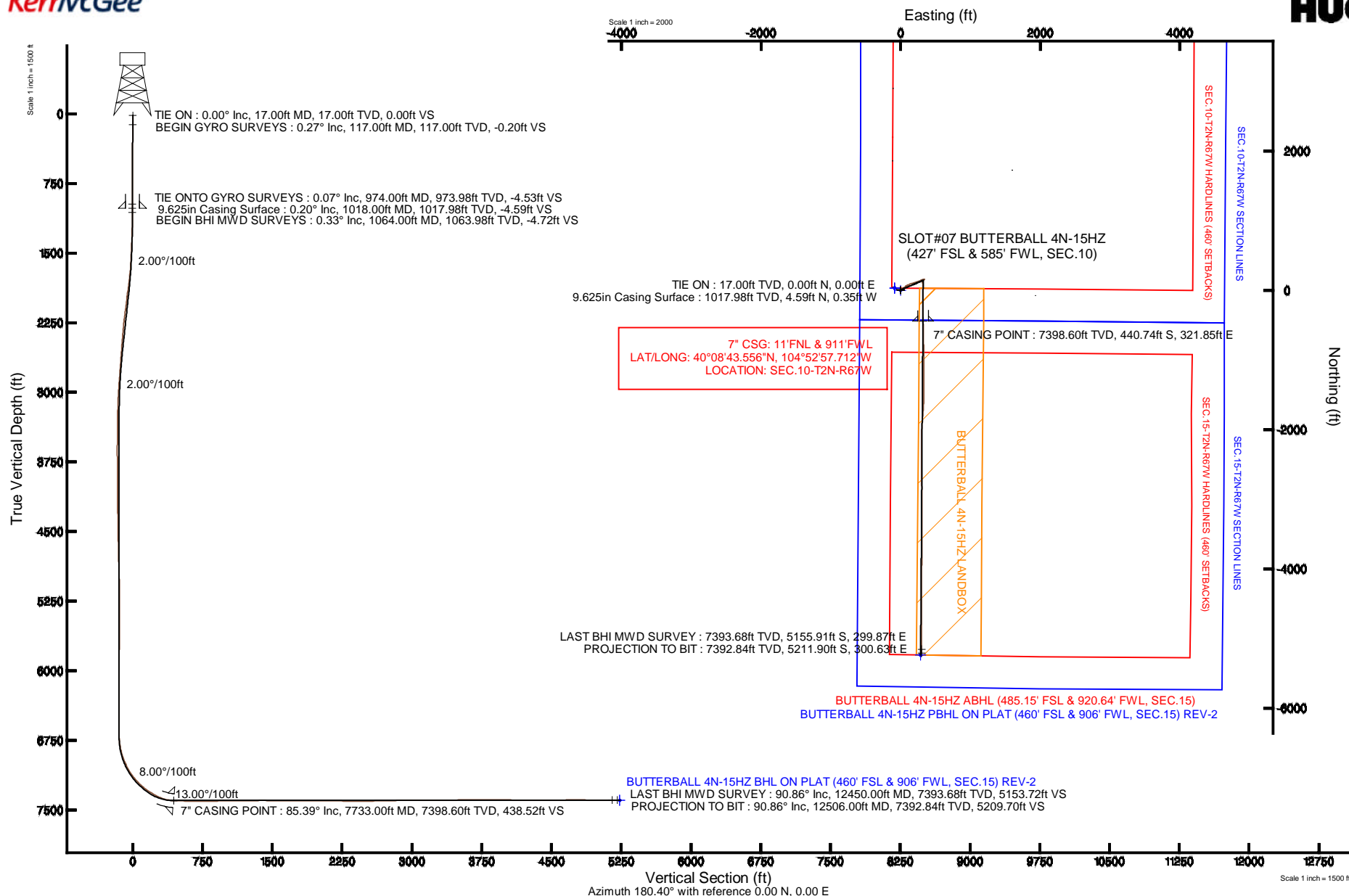
Scale: True distance

Mean Sea Level to Mud line (At Slot: S1 OT#07 BUTTERBAI 4N-15H7 (427' FSL & 585' FW) SEC 10): 0 feet

Depths are in feet

Coordinates are in feet referenced to Slot

Created by: robiale01 on 21-Jan-2014



Actual Wellpath Report

BUTTERBALL 4N-15HZ AWP

Page 1 of 6

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 BUTTERBALL 4N-15HZ (427' FSL & 585' FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 4N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 4N-15HZ AWP
Facility	SEC.10-T2N-R67W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Robiale01
Scale	0.999958	Report Generated	21/Jan/2014 at 10:55
Convergence at slot	n/a	Database/Source file	WellArchitectDB/_ BUTTERBALL_4N-15HZ_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-4187.45	-1377.24	3172244.39	1296863.51	40°08'47.911"N	104°53'01.856"W
Facility Reference Pt			3173592.20	1301060.32	40°09'29.292"N	104°52'44.121"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	XTREME 20 (17'KB (RKB) to Facility Vertical Datum	5013.00ft
Horizontal Reference Pt	Slot	XTREME 20 (17'KB (RKB) to Mean Sea Level	5013.00ft
Vertical Reference Pt	XTREME 20 (17'KB (RKB)	XTREME 20 (17'KB (RKB) to Mud Line at Slot (SLOT#07 BUTTERBALL 4N-15HZ (427' FSL & 585' FWL, SEC.10))	5013.00ft
MD Reference Pt	XTREME 20 (17'KB (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	180.40°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 BUTTERBALL 4N-15HZ (427' FSL & 585' FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 4N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 4N-15HZ AWB
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (131 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	34.310	0.00	0.00	0.00	0.00	40°08'47.911"N	104°53'01.856"W	0.00	
17.00	0.000	34.310	17.00	0.00	0.00	0.00	40°08'47.911"N	104°53'01.856"W	0.00	TIE ON
117.00	0.270	34.310	117.00	-0.20	0.19	0.13	40°08'47.913"N	104°53'01.854"W	0.27	BEGIN GYRO SURVEYS
217.00	0.080	289.570	217.00	-0.41	0.41	0.20	40°08'47.915"N	104°53'01.853"W	0.30	
317.00	0.520	355.820	317.00	-0.89	0.89	0.10	40°08'47.920"N	104°53'01.855"W	0.49	
417.00	0.610	13.860	416.99	-1.86	1.86	0.20	40°08'47.929"N	104°53'01.853"W	0.20	
517.00	0.330	343.400	516.99	-2.65	2.65	0.24	40°08'47.937"N	104°53'01.853"W	0.37	
617.00	0.290	310.860	616.99	-3.09	3.09	-0.03	40°08'47.942"N	104°53'01.856"W	0.18	
717.00	0.370	358.410	716.99	-3.58	3.58	-0.23	40°08'47.946"N	104°53'01.859"W	0.28	
817.00	0.280	33.060	816.99	-4.11	4.11	-0.11	40°08'47.952"N	104°53'01.857"W	0.21	
917.00	0.240	307.000	916.98	-4.44	4.44	-0.14	40°08'47.955"N	104°53'01.858"W	0.36	
974.00	0.070	304.410	973.98	-4.53	4.53	-0.27	40°08'47.956"N	104°53'01.859"W	0.30	TIE ONTO GYRO SURVEYS
1064.00	0.330	308.660	1063.98	-4.72	4.72	-0.51	40°08'47.958"N	104°53'01.863"W	0.29	BEGIN BHI MWD SURVEYS
1155.00	0.270	279.330	1154.98	-4.92	4.92	-0.93	40°08'47.960"N	104°53'01.868"W	0.18	
1247.00	1.800	29.630	1246.97	-6.21	6.21	-0.43	40°08'47.972"N	104°53'01.862"W	2.08	
1339.00	2.890	45.170	1338.89	-9.12	9.10	1.93	40°08'48.001"N	104°53'01.831"W	1.36	
1431.00	4.600	57.820	1430.69	-12.75	12.70	6.70	40°08'48.037"N	104°53'01.770"W	2.05	
1522.00	5.920	64.020	1521.31	-16.80	16.70	14.00	40°08'48.076"N	104°53'01.676"W	1.58	
1613.00	7.820	66.790	1611.65	-21.36	21.20	23.91	40°08'48.120"N	104°53'01.548"W	2.12	
1704.00	9.350	54.100	1701.64	-28.22	27.98	35.59	40°08'48.187"N	104°53'01.398"W	2.67	
1796.00	10.390	51.510	1792.27	-37.85	37.52	48.14	40°08'48.282"N	104°53'01.236"W	1.23	
1888.00	12.550	51.630	1882.43	-49.32	48.89	62.47	40°08'48.394"N	104°53'01.052"W	2.35	
1973.00	12.840	56.620	1965.36	-60.35	59.82	77.60	40°08'48.502"N	104°53'00.857"W	1.33	
2058.00	13.580	60.720	2048.11	-70.54	69.90	94.19	40°08'48.602"N	104°53'00.643"W	1.40	
2144.00	16.810	63.330	2131.09	-81.20	80.42	114.12	40°08'48.706"N	104°53'00.387"W	3.84	
2229.00	16.590	66.840	2212.51	-91.65	90.71	136.26	40°08'48.807"N	104°53'00.101"W	1.21	
2314.00	16.390	74.540	2294.02	-99.77	98.68	158.97	40°08'48.886"N	104°52'59.809"W	2.58	
2399.00	15.780	72.530	2375.69	-106.59	105.35	181.56	40°08'48.952"N	104°52'59.518"W	0.97	
2485.00	14.010	72.390	2458.80	-113.40	112.01	202.64	40°08'49.018"N	104°52'59.247"W	2.06	
2570.00	13.680	72.710	2541.33	-119.63	118.11	222.04	40°08'49.078"N	104°52'58.997"W	0.40	
2655.00	13.530	72.030	2623.95	-125.82	124.16	241.09	40°08'49.138"N	104°52'58.751"W	0.26	
2740.00	12.530	70.130	2706.76	-132.15	130.36	259.22	40°08'49.199"N	104°52'58.518"W	1.28	
2825.00	11.470	69.980	2789.90	-138.29	136.39	275.84	40°08'49.259"N	104°52'58.304"W	1.25	
2911.00	10.650	67.740	2874.30	-144.33	142.33	291.23	40°08'49.317"N	104°52'58.106"W	1.08	
2996.00	8.640	64.650	2958.10	-150.13	148.04	304.27	40°08'49.374"N	104°52'57.938"W	2.44	
3081.00	6.940	65.820	3042.31	-155.04	152.87	314.72	40°08'49.422"N	104°52'57.803"W	2.01	
3166.00	5.550	67.190	3126.80	-158.80	156.57	323.20	40°08'49.458"N	104°52'57.694"W	1.64	
3252.00	3.790	73.270	3212.51	-161.27	159.00	329.75	40°08'49.482"N	104°52'57.610"W	2.12	
3337.00	2.640	68.510	3297.38	-162.83	160.53	334.26	40°08'49.497"N	104°52'57.552"W	1.39	
3422.00	1.110	54.740	3382.33	-164.04	161.72	336.76	40°08'49.509"N	104°52'57.519"W	1.86	
3592.00	0.440	27.440	3552.31	-165.58	163.25	338.40	40°08'49.524"N	104°52'57.498"W	0.44	
3847.00	1.220	209.300	3807.30	-164.08	161.75	337.53	40°08'49.509"N	104°52'57.510"W	0.65	
4103.00	0.210	303.430	4063.28	-161.95	159.63	335.80	40°08'49.488"N	104°52'57.532"W	0.49	
4359.00	1.200	230.930	4319.26	-160.50	158.20	333.33	40°08'49.474"N	104°52'57.564"W	0.45	
4614.00	1.860	232.050	4574.17	-156.23	153.97	327.99	40°08'49.433"N	104°52'57.632"W	0.26	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 BUTTERBALL 4N-15HZ (427' FSL & 585' FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 4N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 4N-15HZ AWP
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (131 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4784.00	1.350	202.610	4744.10	-152.67	150.43	325.05	40°08'49.398"N	104°52'57.670"W	0.56	
5040.00	2.010	204.300	4999.99	-145.77	143.55	322.04	40°08'49.330"N	104°52'57.709"W	0.26	
5125.00	1.070	205.420	5084.96	-143.69	141.48	321.08	40°08'49.309"N	104°52'57.721"W	1.11	
5211.00	0.610	337.800	5170.96	-143.38	141.18	320.57	40°08'49.306"N	104°52'57.728"W	1.80	
5466.00	0.470	279.060	5425.95	-144.79	142.60	319.02	40°08'49.320"N	104°52'57.748"W	0.21	
5722.00	0.730	288.820	5681.93	-145.47	143.29	316.44	40°08'49.327"N	104°52'57.781"W	0.11	
5807.00	0.900	271.700	5766.92	-145.65	143.48	315.26	40°08'49.329"N	104°52'57.796"W	0.35	
5892.00	0.110	312.440	5851.92	-145.72	143.56	314.53	40°08'49.330"N	104°52'57.806"W	0.96	
6148.00	1.490	291.670	6107.89	-147.10	144.95	311.26	40°08'49.343"N	104°52'57.848"W	0.54	
6233.00	0.460	355.180	6192.88	-147.84	145.70	310.20	40°08'49.351"N	104°52'57.861"W	1.59	
6318.00	0.580	346.850	6277.87	-148.60	146.46	310.08	40°08'49.358"N	104°52'57.863"W	0.17	
6404.00	0.590	157.920	6263.87	-148.61	146.47	310.14	40°08'49.358"N	104°52'57.862"W	1.36	
6489.00	0.390	175.450	6448.87	-147.92	145.78	310.33	40°08'49.352"N	104°52'57.860"W	0.29	
6562.00	0.310	154.490	6521.87	-147.49	145.36	310.44	40°08'49.347"N	104°52'57.858"W	0.21	
6648.00	0.470	132.670	6607.86	-147.05	144.91	310.80	40°08'49.343"N	104°52'57.854"W	0.25	
6733.00	0.370	184.730	6692.86	-146.54	144.40	311.03	40°08'49.338"N	104°52'57.851"W	0.45	
6775.00	3.640	164.450	6734.83	-145.12	142.98	311.38	40°08'49.324"N	104°52'57.846"W	7.85	
6818.00	7.030	170.280	6777.64	-141.22	139.07	312.19	40°08'49.285"N	104°52'57.836"W	7.97	
6861.00	11.030	171.140	6820.10	-134.56	132.41	313.26	40°08'49.219"N	104°52'57.822"W	9.31	
6903.00	14.180	172.070	6861.08	-125.50	123.34	314.59	40°08'49.130"N	104°52'57.805"W	7.52	
6946.00	16.950	176.180	6902.50	-114.04	111.87	315.74	40°08'49.016"N	104°52'57.790"W	6.93	
6988.00	19.390	176.120	6942.40	-100.98	98.80	316.62	40°08'48.887"N	104°52'57.779"W	5.81	
7031.00	22.590	175.260	6982.54	-85.63	83.44	317.78	40°08'48.736"N	104°52'57.764"W	7.48	
7074.00	25.570	177.220	7021.80	-68.14	65.94	318.92	40°08'48.563"N	104°52'57.749"W	7.17	
7116.00	29.030	177.590	7059.12	-48.90	46.70	319.78	40°08'48.372"N	104°52'57.738"W	8.25	
7159.00	32.840	178.620	7095.99	-26.82	24.61	320.50	40°08'48.154"N	104°52'57.729"W	8.95	
7201.00	36.480	179.080	7130.53	-2.95	0.73	320.98	40°08'47.918"N	104°52'57.723"W	8.69	
7244.00	39.760	179.550	7164.36	23.59	-25.81	321.29	40°08'47.656"N	104°52'57.719"W	7.66	
7287.00	43.570	179.890	7196.47	52.17	-54.39	321.43	40°08'47.374"N	104°52'57.717"W	8.88	
7329.00	46.830	180.520	7226.07	81.97	-84.18	321.32	40°08'47.079"N	104°52'57.718"W	7.83	
7372.00	50.510	181.190	7254.46	114.25	-116.46	320.83	40°08'46.760"N	104°52'57.725"W	8.64	
7414.00	53.840	181.420	7280.21	147.41	-149.62	320.07	40°08'46.432"N	104°52'57.734"W	7.94	
7457.00	56.250	180.780	7304.85	182.65	-184.86	319.40	40°08'46.084"N	104°52'57.743"W	5.74	
7500.00	59.210	179.910	7327.80	219.01	-221.21	319.19	40°08'45.725"N	104°52'57.746"W	7.09	
7542.00	62.920	177.830	7348.12	255.74	-257.95	319.92	40°08'45.362"N	104°52'57.736"W	9.84	
7585.00	67.940	179.510	7365.99	294.81	-297.03	320.82	40°08'44.976"N	104°52'57.725"W	12.20	
7628.00	73.310	179.400	7380.25	335.36	-337.58	321.20	40°08'44.575"N	104°52'57.720"W	12.49	
7670.00	78.650	179.850	7390.43	376.09	-378.31	321.47	40°08'44.172"N	104°52'57.716"W	12.76	
7699.00	82.800	179.740	7395.10	404.70	-406.93	321.57	40°08'43.890"N	104°52'57.715"W	14.32	
7733.00†	85.394	179.335	7398.60	438.52	-440.74	321.85	40°08'43.556"N	104°52'57.712"W	7.72	7" CASING POINT
7780.00	88.980	178.780	7400.90	485.44	-487.67	322.62	40°08'43.092"N	104°52'57.702"W	7.72	
7865.00	89.470	178.880	7402.05	570.40	-572.65	324.35	40°08'42.252"N	104°52'57.679"W	0.59	
7950.00	90.060	178.760	7402.40	655.37	-657.63	326.10	40°08'41.412"N	104°52'57.657"W	0.71	
8035.00	89.660	178.570	7402.61	740.33	-742.61	328.08	40°08'40.572"N	104°52'57.631"W	0.52	
8120.00	90.000	179.470	7402.86	825.30	-827.59	329.54	40°08'39.733"N	104°52'57.613"W	1.13	

Actual Wellpath Report

BUTTERBALL 4N-15HZ AWP

Page 4 of 6

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 BUTTERBALL 4N-15HZ (427' FSL & 585' FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 4N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 4N-15HZ AWP
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (131 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8205.00	90.950	180.230	7402.16	910.29	-912.59	329.76	40°08'38.893"N	104°52'57.610"W	1.43	
8376.00	90.670	179.410	7399.74	1081.26	-1083.57	330.30	40°08'37.203"N	104°52'57.603"W	0.51	
8461.00	90.890	178.900	7398.58	1166.24	-1168.55	331.55	40°08'36.363"N	104°52'57.587"W	0.65	
8546.00	90.270	179.070	7397.72	1251.21	-1253.53	333.06	40°08'35.523"N	104°52'57.567"W	0.76	
8631.00	90.610	180.410	7397.07	1336.20	-1338.53	333.44	40°08'34.684"N	104°52'57.562"W	1.63	
8716.00	89.630	178.310	7396.89	1421.18	-1423.51	334.39	40°08'33.844"N	104°52'57.550"W	2.73	
8801.00	89.720	180.860	7397.37	1506.16	-1508.50	335.01	40°08'33.004"N	104°52'57.542"W	3.00	
8886.00	89.900	183.460	7397.65	1591.11	-1593.44	331.80	40°08'32.165"N	104°52'57.584"W	3.07	
9056.00	89.260	184.760	7398.90	1760.74	-1762.99	319.62	40°08'30.489"N	104°52'57.740"W	0.85	
9142.00	89.590	185.120	7399.76	1846.47	-1848.67	312.21	40°08'29.642"N	104°52'57.836"W	0.57	
9227.00	90.030	183.630	7400.04	1931.26	-1933.41	305.73	40°08'28.805"N	104°52'57.919"W	1.83	
9312.00	90.150	181.880	7399.91	2016.19	-2018.31	301.65	40°08'27.966"N	104°52'57.972"W	2.06	
9397.00	89.690	181.900	7400.03	2101.16	-2103.27	298.84	40°08'27.126"N	104°52'58.008"W	0.54	
9568.00	88.820	179.260	7402.25	2272.12	-2274.23	297.11	40°08'25.437"N	104°52'58.030"W	1.63	
9653.00	89.900	179.430	7403.20	2357.10	-2359.21	298.08	40°08'24.597"N	104°52'58.018"W	1.29	
9738.00	90.340	180.020	7403.02	2442.10	-2444.21	298.49	40°08'23.757"N	104°52'58.013"W	0.87	
9909.00	90.580	179.300	7401.65	2613.08	-2615.20	299.51	40°08'22.067"N	104°52'58.000"W	0.44	
9994.00	91.720	179.280	7399.95	2698.04	-2700.18	300.56	40°08'21.228"N	104°52'57.986"W	1.34	
10079.00	91.090	179.150	7397.86	2783.00	-2785.14	301.72	40°08'20.388"N	104°52'57.971"W	0.76	
10164.00	90.920	179.150	7396.37	2867.96	-2870.12	302.98	40°08'19.548"N	104°52'57.955"W	0.20	
10249.00	89.780	179.250	7395.85	2952.94	-2955.11	304.17	40°08'18.708"N	104°52'57.940"W	1.35	
10419.00	90.400	179.880	7395.58	3122.92	-3125.10	305.46	40°08'17.028"N	104°52'57.923"W	0.52	
10590.00	90.270	179.790	7394.58	3293.91	-3296.10	305.95	40°08'15.339"N	104°52'57.917"W	0.09	
10761.00	91.200	179.980	7392.39	3464.89	-3467.08	306.30	40°08'13.649"N	104°52'57.912"W	0.56	
10845.00	90.550	180.070	7391.11	3548.88	-3551.07	306.26	40°08'12.819"N	104°52'57.913"W	0.78	
10931.00	89.720	180.450	7390.91	3634.88	-3637.07	305.87	40°08'11.969"N	104°52'57.918"W	1.06	
11016.00	90.430	180.560	7390.79	3719.88	-3722.07	305.12	40°08'11.129"N	104°52'57.927"W	0.85	
11101.00	90.090	180.790	7390.41	3804.87	-3807.06	304.12	40°08'10.289"N	104°52'57.940"W	0.48	
11186.00	89.930	180.760	7390.39	3889.87	-3892.05	302.97	40°08'09.449"N	104°52'57.955"W	0.19	
11271.00	89.960	180.920	7390.48	3974.87	-3977.04	301.72	40°08'08.610"N	104°52'57.971"W	0.19	
11356.00	88.490	180.350	7391.63	4059.86	-4062.03	300.78	40°08'07.770"N	104°52'57.983"W	1.85	
11526.00	90.150	180.100	7393.64	4229.84	-4232.01	300.11	40°08'06.090"N	104°52'57.992"W	0.99	
11611.00	90.490	179.880	7393.17	4314.84	-4317.01	300.13	40°08'05.250"N	104°52'57.992"W	0.48	
11696.00	90.330	180.260	7392.56	4399.83	-4402.00	300.02	40°08'04.410"N	104°52'57.993"W	0.49	
11781.00	89.260	179.550	7392.86	4484.83	-4487.00	300.17	40°08'03.570"N	104°52'57.991"W	1.51	
11951.00	91.270	180.950	7392.08	4654.81	-4656.99	299.42	40°08'01.890"N	104°52'58.001"W	1.44	
12036.00	90.830	180.670	7390.52	4739.79	-4741.96	298.22	40°08'01.051"N	104°52'58.016"W	0.61	
12122.00	88.610	180.160	7390.94	4825.79	-4827.95	297.60	40°08'00.201"N	104°52'58.024"W	2.65	
12292.00	89.350	179.500	7393.97	4995.75	-4997.92	298.10	40°07'58.521"N	104°52'58.018"W	0.58	
12450.00	90.860	179.220	7393.68	5153.72	-5155.91	299.87	40°07'56.960"N	104°52'57.995"W	0.97	LAST BHI MWD SURVEY
12506.00	90.860	179.220	7392.84	5209.70	-5211.90	300.63	40°07'56.407"N	104°52'57.986"W	0.00	PROJECTION TO BIT

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 BUTTERBALL 4N-15HZ (427' FSL & 585' FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 4N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 4N-15HZ AWB
Facility	SEC.10-T2N-R67W		

HOLE & CASING SECTIONS - Ref Wellbore: BUTTERBALL 4N-15HZ AWB Ref Wellpath: BUTTERBALL 4N-15HZ AWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.5in Open Hole	17.00	1018.00	1001.00	17.00	1017.98	0.00	0.00	4.59	-0.35
9.625in Casing Surface	17.00	1018.00	1001.00	17.00	1017.98	0.00	0.00	4.59	-0.35
8.75in Open Hole	1018.00	7745.00	6727.00	1017.98	7399.46	4.59	-0.35	-452.71	322.00
7in Casing Intermediate	17.00	7733.00	7716.00	17.00	7398.60	0.00	0.00	-440.74	321.85
6.125in Open Hole	7745.00	12506.00	4761.00	7399.46	7392.84	-452.71	322.00	-5211.90	300.63

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.10-T2N-R67W HARDLINES (460' SETBACKS)		0.00	32.79	-83.87	3172160.30	1296895.72	40°08'48.235"N	104°53'02.936"W	polygon
SEC.10-T2N-R67W SECTION LINES		0.00	32.79	-83.87	3172160.30	1296895.72	40°08'48.235"N	104°53'02.936"W	polygon
SEC.15-T2N-R67W HARDLINES (460' SETBACKS)		0.00	32.79	-83.87	3172160.30	1296895.72	40°08'48.235"N	104°53'02.936"W	polygon
SEC.15-T2N-R67W SECTION LINES		0.00	32.79	-83.87	3172160.30	1296895.72	40°08'48.235"N	104°53'02.936"W	polygon
BUTTERBALL 4N-15HZ BHL ON PLAT (460' FSL & 906' FWL, SEC.15) REV-1		7395.00	-5237.05	285.99	3172566.75	1291628.80	40°07'56.158"N	104°52'58.174"W	point
BUTTERBALL 4N-15HZ LANDBOX		7395.00	0.00	0.00	3172244.39	1296863.51	40°08'47.911"N	104°53'01.856"W	polygon
BUTTERBALL 4N-15HZ BHL ON PLAT (460' FSL & 906' FWL, SEC.15) REV-2		7396.00	-5237.05	285.99	3172566.75	1291628.80	40°07'56.158"N	104°52'58.174"W	point

WELLPATH COMPOSITION - Ref Wellbore: BUTTERBALL 4N-15HZ AWB Ref Wellpath: BUTTERBALL 4N-15HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	974.00	Generic gyro - continuous (Standard)	MS ENERGY SERVICES GYRO SURVEYS <117-974>	BUTTERBALL 4N-15HZ AWB
974.00	7699.00	NaviTrak (MAGCORR,IFR)	BHI MWD SURVEYS <1064-7699>	BUTTERBALL 4N-15HZ AWB
7699.00	12450.00	NaviTrak (MAGCORR,IFR)	BHI MWD SURVEYS 6 1/8" HOLE <7780-9568>	BUTTERBALL 4N-15HZ AWB
12450.00	12506.00	Blind Drilling (std)	Projection to bit	BUTTERBALL 4N-15HZ AWB

Actual Wellpath Report

BUTTERBALL 4N-15HZ AWP

Page 6 of 6

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#07 BUTTERBALL 4N-15HZ (427' FSL & 585' FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 4N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 4N-15HZ AWB
Facility	SEC.10-T2N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	34.310	17.00	TIE ON
117.00	0.270	34.310	117.00	BEGIN GYRO SURVEYS
974.00	0.070	304.410	973.98	TIE ONTO GYRO SURVEYS
1064.00	0.330	308.660	1063.98	BEGIN BHI MWD SURVEYS
7733.00	85.394	179.335	7398.60	7" CASING POINT
12450.00	90.860	179.220	7393.68	LAST BHI MWD SURVEY
12506.00	90.860	179.220	7392.84	PROJECTION TO BIT