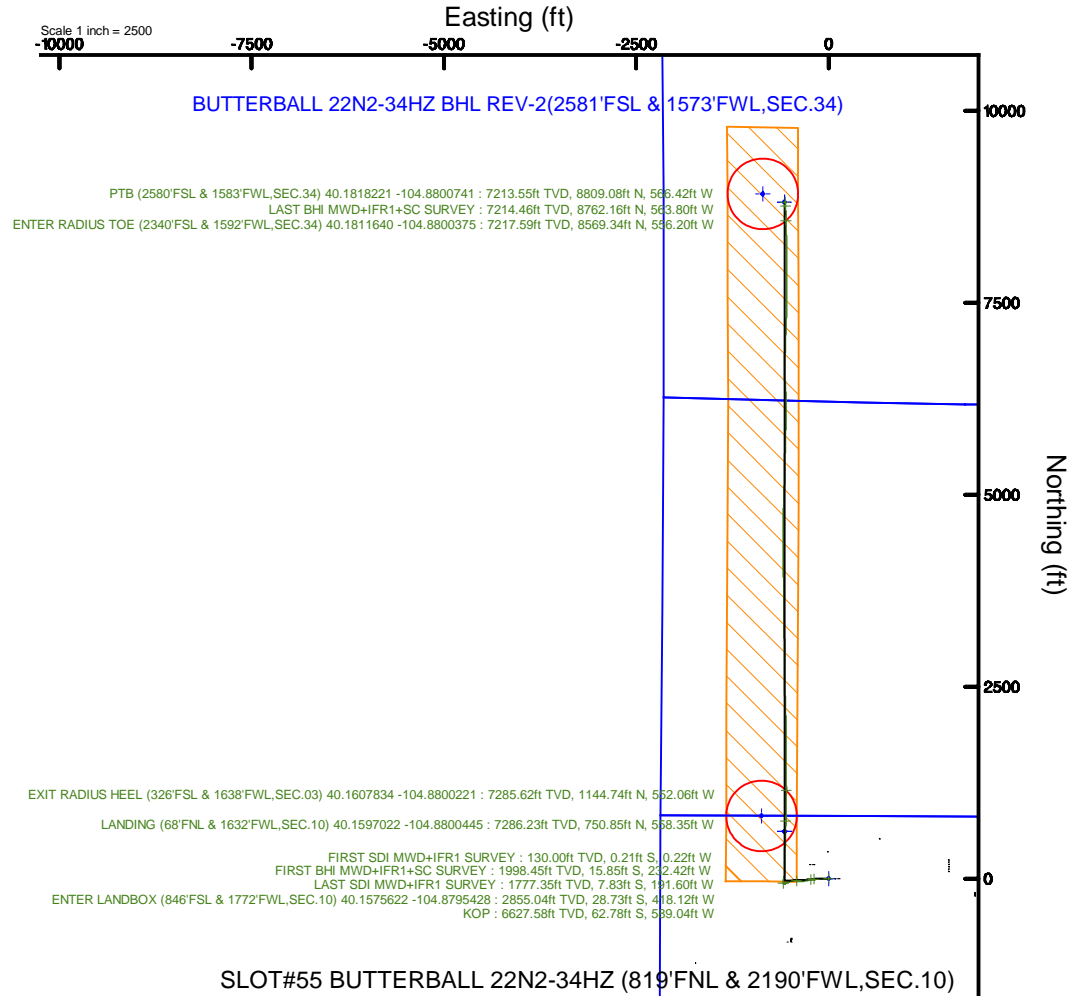
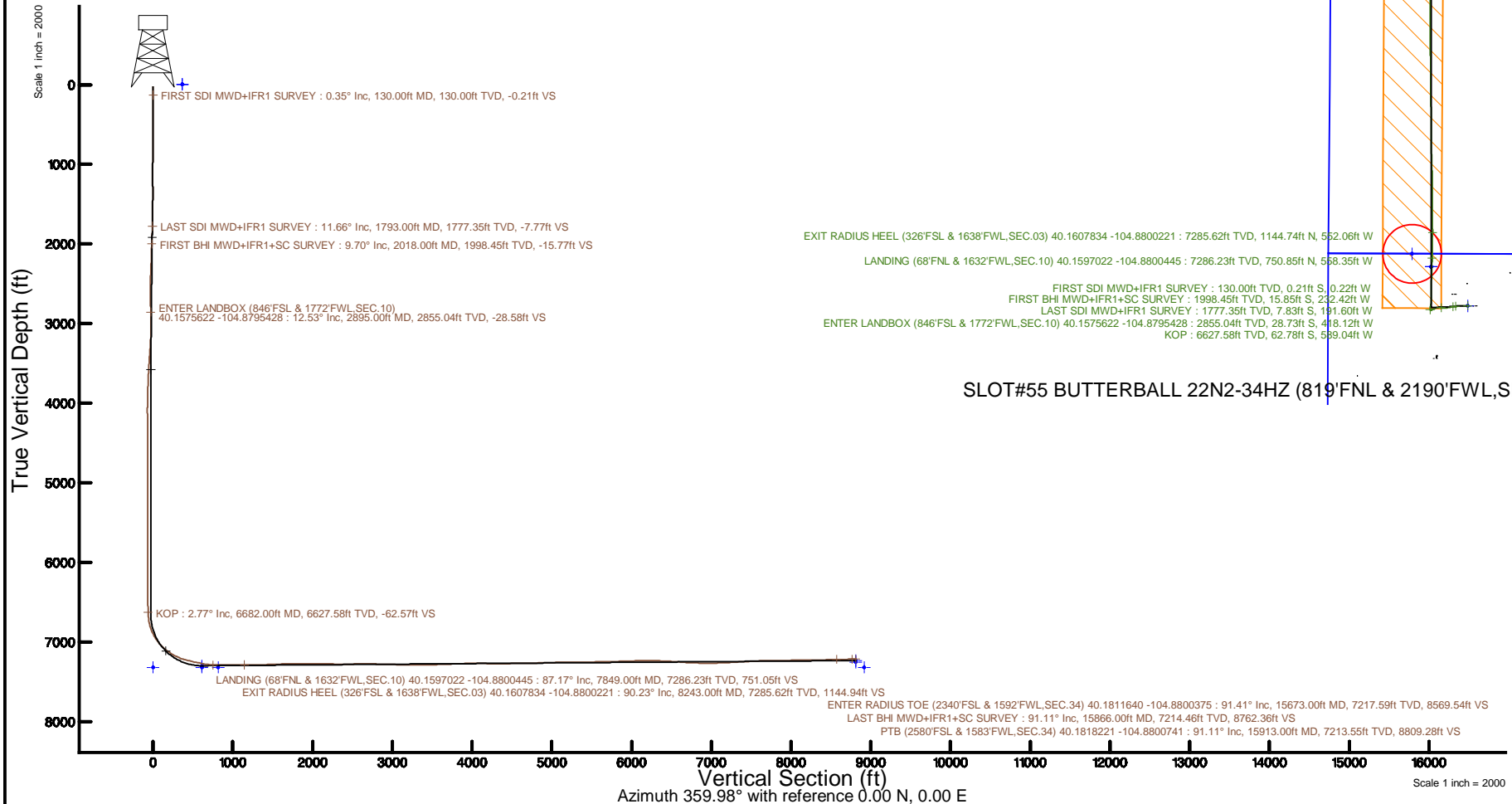


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#55 BUTTERBALL 22N2-34HZ (819'FNL & 2190'FWL,SEC.10)
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: BUTTERBALL 22N2-34HZ
 Facility: SEC.10-T2N-R67W Wellbore: BUTTERBALL 22N2-34HZ PWB

Plot reference wellpath is BUTTERBALL 22N2-34HZ 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#55 BUTTERBALL 22N2-34HZ (819'FNL & 2190'FWL,SEC.10)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2017-06-30
	Database: WA_DEN /Anadarko_Defn



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#55 BUTTERBALL 22N2-34HZ (819'FNL & 2190'FWL,SEC.10)
Area	COLORADO	Well	BUTTERBALL 22N2-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 22N2-34HZ 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	6/30/2017 at 12:32 PM
Convergence at slot	0.08° East	Database/Source file	WA_DEN_Anadarko_Defn/BUTTERBALL_22N2-34HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-180.53	244.73	1674491.07	14584161.14	40°09'27.508"N	104°52'40.969"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#55 BUTTERBALL 22N2-34HZ (819'FNL & 2190'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	359.98°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#55 BUTTERBALL 22N2-34HZ (819'FNL & 2190'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 22N2-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 22N2-34HZ AWB
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (176 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	226.730	0.00	0.00	0.00	0.00	1674491.07	14584161.14	40°09'27.508"N	104°52'40.969"W	0.00	
32.00	0.000	226.730	32.00	0.00	0.00	0.00	1674491.07	14584161.14	40°09'27.508"N	104°52'40.969"W	0.00	
130.00	0.350	226.730	130.00	-0.21	-0.21	-0.22	1674490.86	14584160.94	40°09'27.506"N	104°52'40.972"W	0.36	FIRST SDI MWD+IFR1 SURVEY
213.00	0.440	251.000	213.00	-0.48	-0.48	-0.70	1674490.37	14584160.66	40°09'27.503"N	104°52'40.978"W	0.23	
301.00	0.500	269.170	300.99	-0.60	-0.60	-1.41	1674489.67	14584160.54	40°09'27.502"N	104°52'40.987"W	0.18	
390.00	0.590	267.620	389.99	-0.62	-0.62	-2.25	1674488.82	14584160.52	40°09'27.502"N	104°52'40.998"W	0.10	
434.00	0.650	276.460	433.99	-0.60	-0.60	-2.73	1674488.35	14584160.54	40°09'27.502"N	104°52'41.004"W	0.26	
521.00	2.170	269.170	520.96	-0.57	-0.57	-4.87	1674486.21	14584160.56	40°09'27.502"N	104°52'41.032"W	1.76	
608.00	3.450	274.100	607.85	-0.41	-0.41	-9.12	1674481.95	14584160.72	40°09'27.504"N	104°52'41.087"W	1.50	
696.00	5.000	272.220	695.61	-0.07	-0.07	-15.60	1674475.48	14584161.05	40°09'27.507"N	104°52'41.170"W	1.77	
785.00	5.940	262.350	784.21	-0.53	-0.53	-24.04	1674467.05	14584160.58	40°09'27.503"N	104°52'41.279"W	1.49	
874.00	6.040	259.360	872.72	-2.00	-2.01	-33.20	1674457.89	14584159.09	40°09'27.488"N	104°52'41.397"W	0.37	
960.00	7.330	260.770	958.13	-3.71	-3.73	-43.07	1674448.03	14584157.36	40°09'27.471"N	104°52'41.524"W	1.51	
1047.00	7.810	269.640	1044.38	-4.64	-4.65	-54.45	1674436.65	14584156.42	40°09'27.462"N	104°52'41.670"W	1.45	
1134.00	7.840	271.710	1130.57	-4.49	-4.51	-66.30	1674424.81	14584156.54	40°09'27.463"N	104°52'41.823"W	0.33	
1222.00	9.170	270.840	1217.60	-4.21	-4.23	-79.31	1674411.80	14584156.80	40°09'27.466"N	104°52'41.990"W	1.52	
1309.00	10.150	270.980	1303.36	-3.97	-4.00	-93.90	1674397.21	14584157.02	40°09'27.468"N	104°52'42.178"W	1.13	
1396.00	11.170	269.460	1388.86	-3.91	-3.95	-110.00	1674381.13	14584157.05	40°09'27.469"N	104°52'42.386"W	1.22	
1484.00	11.770	269.190	1475.10	-4.11	-4.16	-127.49	1674363.64	14584156.81	40°09'27.467"N	104°52'42.611"W	0.68	
1573.00	12.160	268.100	1562.17	-4.54	-4.59	-145.94	1674345.20	14584156.35	40°09'27.463"N	104°52'42.849"W	0.51	
1660.00	12.330	266.830	1647.19	-5.35	-5.41	-164.37	1674326.77	14584155.51	40°09'27.455"N	104°52'43.086"W	0.37	
1749.00	11.620	264.380	1734.26	-6.75	-6.82	-182.78	1674308.38	14584154.08	40°09'27.441"N	104°52'43.323"W	0.98	
1793.00	11.660	262.450	1777.35	-7.77	-7.83	-191.60	1674299.56	14584153.05	40°09'27.431"N	104°52'43.437"W	0.89	LAST SDI MWD+IFR1 SURVEY
2018.00	9.700	254.620	1998.45	-15.77	-15.85	-232.42	1674258.77	14584144.98	40°09'27.351"N	104°52'43.962"W	1.08	FIRST BHI MWD+IFR1+SC SURVEY
2112.00	10.510	266.020	2091.00	-18.46	-18.55	-248.61	1674242.59	14584142.26	40°09'27.325"N	104°52'44.171"W	2.29	
2205.00	11.960	256.260	2182.23	-21.33	-21.42	-266.43	1674224.77	14584139.36	40°09'27.296"N	104°52'44.400"W	2.57	
2300.00	14.010	261.120	2274.80	-25.44	-25.54	-287.36	1674203.86	14584135.22	40°09'27.256"N	104°52'44.670"W	2.44	
2393.00	12.590	258.380	2365.30	-29.21	-29.32	-308.41	1674182.82	14584131.42	40°09'27.218"N	104°52'44.941"W	1.67	
2487.00	12.420	263.570	2457.07	-32.40	-32.51	-328.49	1674162.76	14584128.19	40°09'27.187"N	104°52'45.200"W	1.21	
2581.00	12.570	269.210	2548.85	-33.66	-33.78	-348.77	1674142.49	14584126.89	40°09'27.174"N	104°52'45.461"W	1.31	
2674.00	13.250	273.680	2639.50	-33.11	-33.24	-369.52	1674121.75	14584127.41	40°09'27.179"N	104°52'45.728"W	1.30	
2768.00	12.450	273.970	2731.15	-31.71	-31.85	-390.38	1674100.89	14584128.77	40°09'27.193"N	104°52'45.997"W	0.85	
2862.00	12.940	277.880	2822.85	-29.56	-29.70	-410.91	1674080.36	14584130.89	40°09'27.214"N	104°52'46.261"W	1.05	
2895.00†	12.529	277.477	2855.04	-28.58	-28.73	-418.12	1674073.16	14584131.85	40°09'27.224"N	104°52'46.354"W	1.28	ENTER LANDBOX (846'FSL & 1772'FWL, SEC.10) 40.1575622 -104.8795428
2956.00	11.770	276.660	2914.67	-27.00	-27.15	-430.86	1674060.42	14584133.41	40°09'27.240"N	104°52'46.518"W	1.28	
3049.00	11.950	270.840	3005.69	-25.75	-25.91	-449.91	1674041.38	14584134.63	40°09'27.252"N	104°52'46.764"W	1.30	
3143.00	11.730	262.810	3097.70	-26.80	-26.96	-469.12	1674022.17	14584133.55	40°09'27.242"N	104°52'47.011"W	1.77	
3237.00	12.620	258.320	3189.58	-30.06	-30.23	-488.66	1674002.65	14584130.25	40°09'27.209"N	104°52'47.263"W	1.38	
3331.00	11.460	248.690	3281.52	-35.53	-35.71	-507.42	1673983.91	14584124.75	40°09'27.155"N	104°52'47.504"W	2.46	
3425.00	9.440	246.380	3373.96	-42.01	-42.19	-523.18	1673968.16	14584118.25	40°09'27.091"N	104°52'47.707"W	2.19	
3519.00	8.000	243.280	3466.87	-48.03	-48.22	-536.09	1673955.26	14584112.21	40°09'27.031"N	104°52'47.873"W	1.61	
3612.00	6.710	242.490	3559.10	-53.45	-53.64	-546.69	1673944.68	14584106.77	40°09'26.978"N	104°52'48.010"W	1.39	
3706.00	5.340	242.350	3652.58	-58.01	-58.21	-555.44	1673935.94	14584102.20	40°09'26.933"N	104°52'48.123"W	1.46	
3799.00	4.580	237.950	3745.23	-61.99	-62.19	-562.42	1673928.97	14584098.21	40°09'26.893"N	104°52'48.213"W	0.91	
3893.00	4.120	235.520	3838.96	-65.89	-66.09	-568.38	1673923.01	14584094.30	40°09'26.855"N	104°52'48.289"W	0.53	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#55 BUTTERBALL 22N2-34HZ (819'FNL & 2190'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 22N2-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 22N2-34HZ AWB
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (176 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
4012.00	2.100	244.160	3957.78	-69.26	-69.46	-573.87	1673917.53	14584090.92	40°09'26.822"N	104°52'48.360"W	1.74	
4106.00	1.910	250.310	4051.72	-70.54	-70.74	-576.89	1673914.51	14584089.64	40°09'26.809"N	104°52'48.399"W	0.31	
4199.00	0.950	37.360	4144.71	-70.45	-70.65	-577.88	1673913.52	14584089.73	40°09'26.810"N	104°52'48.412"W	2.96	
4293.00	1.110	13.030	4238.70	-68.94	-69.14	-577.21	1673914.19	14584091.24	40°09'26.825"N	104°52'48.403"W	0.49	
4387.00	1.140	12.250	4332.68	-67.14	-67.34	-576.80	1673914.59	14584093.04	40°09'26.842"N	104°52'48.398"W	0.04	
4480.00	0.390	159.260	4425.67	-66.53	-66.73	-576.49	1673914.90	14584093.65	40°09'26.848"N	104°52'48.394"W	1.59	
4573.00	0.070	311.440	4518.67	-66.79	-66.99	-576.42	1673914.97	14584093.39	40°09'26.846"N	104°52'48.393"W	0.49	
4761.00	0.070	104.150	4706.67	-66.74	-66.94	-576.40	1673915.00	14584093.44	40°09'26.846"N	104°52'48.393"W	0.07	
4854.00	0.090	186.860	4799.67	-66.83	-67.03	-576.35	1673915.04	14584093.35	40°09'26.846"N	104°52'48.392"W	0.11	
4948.00	0.260	341.030	4893.67	-66.70	-66.90	-576.43	1673914.97	14584093.48	40°09'26.847"N	104°52'48.393"W	0.37	
5042.00	0.310	295.570	4987.67	-66.39	-66.59	-576.73	1673914.67	14584093.79	40°09'26.850"N	104°52'48.397"W	0.24	
5135.00	0.820	294.780	5080.67	-66.00	-66.20	-577.56	1673913.84	14584094.17	40°09'26.854"N	104°52'48.408"W	0.55	
5229.00	0.940	286.550	5174.65	-65.50	-65.70	-578.91	1673912.49	14584094.67	40°09'26.859"N	104°52'48.425"W	0.19	
5323.00	0.690	309.590	5268.64	-64.92	-65.12	-580.09	1673911.31	14584095.25	40°09'26.864"N	104°52'48.440"W	0.43	
5416.00	0.500	279.540	5361.64	-64.49	-64.70	-580.92	1673910.48	14584095.68	40°09'26.869"N	104°52'48.451"W	0.39	
5510.00	0.500	280.140	5455.64	-64.35	-64.56	-581.73	1673909.67	14584095.81	40°09'26.870"N	104°52'48.461"W	0.01	
5604.00	0.400	253.360	5549.63	-64.37	-64.58	-582.44	1673908.95	14584095.79	40°09'26.870"N	104°52'48.470"W	0.24	
5698.00	0.430	267.760	5643.63	-64.48	-64.69	-583.11	1673908.29	14584095.68	40°09'26.869"N	104°52'48.479"W	0.12	
5792.00	0.470	240.700	5737.63	-64.68	-64.89	-583.80	1673907.60	14584095.48	40°09'26.867"N	104°52'48.488"W	0.23	
5885.00	0.690	207.300	5830.62	-65.37	-65.57	-584.39	1673907.01	14584094.80	40°09'26.860"N	104°52'48.495"W	0.42	
5979.00	0.490	234.490	5924.62	-66.10	-66.31	-584.98	1673906.42	14584094.06	40°09'26.853"N	104°52'48.503"W	0.36	
6072.00	0.350	303.900	6017.62	-66.18	-66.38	-585.53	1673905.86	14584093.98	40°09'26.852"N	104°52'48.510"W	0.53	
6166.00	0.530	254.650	6111.61	-66.13	-66.34	-586.19	1673905.21	14584094.03	40°09'26.852"N	104°52'48.519"W	0.43	
6260.00	0.640	286.410	6205.61	-66.10	-66.30	-587.12	1673904.28	14584094.06	40°09'26.853"N	104°52'48.531"W	0.36	
6353.00	0.460	334.560	6298.61	-65.61	-65.82	-587.77	1673903.63	14584094.54	40°09'26.858"N	104°52'48.539"W	0.51	
6447.00	0.290	348.740	6392.60	-65.04	-65.24	-587.98	1673903.42	14584095.12	40°09'26.863"N	104°52'48.542"W	0.20	
6541.00	0.440	350.800	6486.60	-64.45	-64.66	-588.09	1673903.31	14584095.71	40°09'26.869"N	104°52'48.543"W	0.16	
6635.00	0.540	315.360	6580.60	-63.78	-63.98	-588.46	1673902.94	14584096.38	40°09'26.876"N	104°52'48.548"W	0.33	
6682.00†	2.768	337.712	6627.58	-62.57	-62.78	-589.04	1673902.35	14584097.58	40°09'26.888"N	104°52'48.555"W	4.85	KOP
6729.00	5.040	340.050	6674.46	-59.58	-59.79	-590.18	1673901.22	14584100.57	40°09'26.917"N	104°52'48.570"W	4.85	
6822.00	13.080	6.810	6766.26	-45.26	-45.47	-590.32	1673901.05	14584114.88	40°09'27.059"N	104°52'48.572"W	9.54	
6915.00	21.960	11.250	6854.86	-17.70	-17.91	-585.67	1673905.66	14584142.44	40°09'27.331"N	104°52'48.512"W	9.65	
7008.00	30.680	9.460	6938.14	22.83	22.63	-578.37	1673912.91	14584182.97	40°09'27.732"N	104°52'48.418"W	9.41	
7101.00	39.240	4.970	7014.30	75.64	75.45	-571.91	1673919.29	14584235.77	40°09'28.253"N	104°52'48.335"W	9.61	
7194.00	49.300	359.200	7080.84	140.39	140.19	-569.84	1673921.27	14584300.50	40°09'28.893"N	104°52'48.308"W	11.64	
7288.00	57.830	357.920	7136.62	215.92	215.72	-571.79	1673919.22	14584375.99	40°09'29.640"N	104°52'48.333"W	9.14	
7381.00	63.940	1.620	7181.86	297.11	296.91	-572.04	1673918.86	14584457.15	40°09'30.442"N	104°52'48.337"W	7.43	
7474.00	73.770	1.550	7215.36	383.71	383.51	-569.64	1673921.13	14584543.72	40°09'31.298"N	104°52'48.306"W	10.57	
7568.00	77.140	1.750	7238.97	474.64	474.44	-567.02	1673923.63	14584634.62	40°09'32.196"N	104°52'48.272"W	3.59	
7661.00	77.250	1.330	7259.58	565.30	565.10	-564.58	1673925.94	14584725.24	40°09'33.092"N	104°52'48.241"W	0.46	
7755.00	81.470	2.430	7276.93	657.61	657.41	-561.55	1673928.85	14584817.52	40°09'34.005"N	104°52'48.202"W	4.63	
7849.00	87.170	1.500	7286.23	751.05	750.85	-558.35	1673931.92	14584910.93	40°09'34.928"N	104°52'48.160"W	6.14	LANDING (68'FNL & 1632'FWL, SEC.10) 40.1597022 -104.8800445
7943.00	90.430	1.330	7288.20	844.99	844.79	-556.03	1673934.11	14585004.83	40°09'35.856"N	104°52'48.130"W	3.47	
8037.00	91.320	0.780	7286.76	938.96	938.76	-554.29	1673935.71	14585098.77	40°09'36.785"N	104°52'48.108"W	1.11	
8131.00	89.910	0.580	7285.75	1032.94	1032.75	-553.18	1673936.70	14585192.72	40°09'37.714"N	104°52'48.094"W	1.52	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#55 BUTTERBALL 22N2-34HZ (819'FNL & 2190'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 22N2-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 22N2-34HZ AWB
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (176 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
8225.00	90.180	0.600	7285.68	1126.94	1126.74	-552.21	1673937.54	14585286.68	40°09'38.642"N	104°52'48.081"W	0.29	
8243.00†	90.234	0.350	7285.62	1144.94	1144.74	-552.06	1673937.66	14585304.67	40°09'38.820"N	104°52'48.080"W	1.42	EXIT RADIUS HEEL (326'FSL & 1638'FWL, SEC.03) 40.1607834 -104.8800221
8318.00	90.460	359.310	7285.16	1219.93	1219.74	-552.28	1673937.34	14585379.64	40°09'39.561"N	104°52'48.082"W	1.42	
8412.00	91.540	358.890	7283.52	1313.91	1313.71	-553.76	1673935.73	14585473.57	40°09'40.490"N	104°52'48.101"W	1.23	
8507.00	90.120	359.480	7282.15	1408.88	1408.69	-555.11	1673934.25	14585568.51	40°09'41.429"N	104°52'48.119"W	1.62	
8600.00	91.970	359.440	7280.45	1501.86	1501.67	-555.99	1673933.25	14585661.44	40°09'42.347"N	104°52'48.130"W	1.99	
8693.00	93.600	0.100	7275.93	1594.75	1594.55	-556.36	1673932.75	14585754.29	40°09'43.265"N	104°52'48.135"W	1.89	
8787.00	89.910	0.960	7273.05	1688.68	1688.49	-555.49	1673933.49	14585848.19	40°09'44.194"N	104°52'48.124"W	4.03	
8881.00	89.880	0.230	7273.22	1782.68	1782.48	-554.52	1673934.33	14585942.15	40°09'45.123"N	104°52'48.111"W	0.78	
8974.00	90.000	359.480	7273.32	1875.67	1875.48	-554.75	1673933.97	14586035.11	40°09'46.042"N	104°52'48.114"W	0.82	
9067.00	91.050	359.230	7272.47	1968.66	1968.47	-555.80	1673932.80	14586128.06	40°09'46.960"N	104°52'48.128"W	1.16	
9161.00	88.800	357.930	7272.59	2062.63	2062.43	-558.13	1673930.34	14586221.98	40°09'47.889"N	104°52'48.158"W	2.76	
9252.00	89.720	357.140	7273.77	2153.54	2153.34	-562.04	1673926.30	14586312.85	40°09'48.787"N	104°52'48.208"W	1.33	
9344.00	88.640	358.680	7275.08	2245.46	2245.26	-565.40	1673922.82	14586404.73	40°09'49.696"N	104°52'48.252"W	2.04	
9436.00	89.290	358.660	7276.75	2337.42	2337.22	-567.53	1673920.56	14586496.65	40°09'50.604"N	104°52'48.279"W	0.71	
9528.00	90.400	358.120	7277.00	2429.38	2429.19	-570.11	1673917.85	14586588.57	40°09'51.513"N	104°52'48.312"W	1.34	
9619.00	91.670	357.670	7275.35	2520.31	2520.11	-573.46	1673914.39	14586679.45	40°09'52.412"N	104°52'48.355"W	1.48	
9711.00	91.420	359.640	7272.87	2612.25	2612.04	-575.62	1673912.10	14586771.35	40°09'53.320"N	104°52'48.383"W	2.16	
9804.00	88.610	1.010	7272.85	2705.23	2705.03	-575.09	1673912.50	14586864.30	40°09'54.239"N	104°52'48.377"W	3.36	
9895.00	88.090	0.160	7275.47	2796.19	2795.99	-574.16	1673913.31	14586955.22	40°09'55.138"N	104°52'48.365"W	1.09	
9986.00	88.370	0.120	7278.28	2887.14	2886.94	-573.94	1673913.41	14587046.14	40°09'56.037"N	104°52'48.362"W	0.31	
10077.00	88.580	359.360	7280.70	2978.11	2977.91	-574.35	1673912.87	14587137.07	40°09'56.936"N	104°52'48.367"W	0.87	
10171.00	88.890	358.770	7282.77	3072.07	3071.87	-575.88	1673911.21	14587230.99	40°09'57.864"N	104°52'48.387"W	0.71	
10265.00	89.320	358.070	7284.24	3166.03	3165.83	-578.47	1673908.49	14587324.90	40°09'58.793"N	104°52'48.420"W	0.87	
10359.00	89.750	357.990	7285.01	3259.97	3259.77	-581.71	1673905.13	14587418.80	40°09'59.721"N	104°52'48.462"W	0.47	
10452.00	90.030	358.860	7285.18	3352.93	3352.73	-584.26	1673902.45	14587511.73	40°10'00.640"N	104°52'48.495"W	0.98	
10545.00	90.800	1.070	7284.51	3445.93	3445.72	-584.32	1673902.26	14587604.68	40°10'01.559"N	104°52'48.496"W	2.52	
10639.00	91.420	0.690	7282.69	3539.90	3539.69	-582.88	1673903.57	14587698.61	40°10'02.487"N	104°52'48.477"W	0.77	
10732.00	92.130	0.220	7279.81	3632.85	3632.64	-582.14	1673904.18	14587791.53	40°10'03.406"N	104°52'48.468"W	0.92	
10826.00	92.470	359.960	7276.04	3726.77	3726.57	-581.99	1673904.20	14587885.42	40°10'04.334"N	104°52'48.466"W	0.46	
10920.00	92.590	358.780	7271.89	3820.67	3820.47	-583.02	1673903.04	14587979.28	40°10'05.262"N	104°52'48.479"W	1.26	
11013.00	91.510	358.620	7268.56	3913.59	3913.38	-585.13	1673900.81	14588072.15	40°10'06.180"N	104°52'48.506"W	1.17	
11106.00	92.120	358.380	7265.61	4006.51	4006.31	-587.56	1673898.25	14588165.03	40°10'07.098"N	104°52'48.538"W	0.70	
11200.00	88.000	358.680	7265.52	4100.46	4100.25	-589.97	1673895.71	14588258.94	40°10'08.027"N	104°52'48.569"W	4.39	
11293.00	87.840	358.480	7268.89	4193.37	4193.16	-592.28	1673893.28	14588351.81	40°10'08.945"N	104°52'48.598"W	0.28	
11385.00	89.630	0.330	7270.92	4285.34	4285.13	-593.23	1673892.20	14588443.74	40°10'09.854"N	104°52'48.611"W	2.80	
11479.00	90.400	359.720	7270.90	4379.33	4379.13	-593.19	1673892.11	14588537.70	40°10'10.783"N	104°52'48.610"W	1.05	
11573.00	91.850	0.290	7269.05	4473.31	4473.11	-593.18	1673891.99	14588631.64	40°10'11.711"N	104°52'48.610"W	1.66	
11668.00	89.970	1.550	7267.54	4568.28	4568.08	-591.66	1673893.38	14588726.57	40°10'12.650"N	104°52'48.591"W	2.38	
11761.00	90.770	1.670	7266.94	4661.24	4661.04	-589.05	1673895.87	14588819.50	40°10'13.568"N	104°52'48.557"W	0.87	
11854.00	91.780	1.250	7264.87	4754.19	4753.98	-586.68	1673898.11	14588912.41	40°10'14.487"N	104°52'48.526"W	1.18	
11948.00	93.450	1.150	7260.59	4848.06	4847.86	-584.71	1673899.95	14589006.25	40°10'15.415"N	104°52'48.501"W	1.78	
12042.00	90.710	2.230	7257.17	4941.95	4941.75	-581.94	1673902.59	14589100.11	40°10'16.342"N	104°52'48.465"W	3.13	
12136.00	91.360	1.480	7255.48	5035.88	5035.68	-578.90	1673905.50	14589194.01	40°10'17.271"N	104°52'48.426"W	1.06	
12230.00	89.600	1.210	7254.69	5129.85	5129.65	-576.69	1673907.58	14589287.94	40°10'18.199"N	104°52'48.398"W	1.89	

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)		Slot	SLOT#55 BUTTERBALL 22N2-34HZ (819'FNL & 2190'FWL, SEC.10)
Area	COLORADO		Well	BUTTERBALL 22N2-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)		Wellbore	BUTTERBALL 22N2-34HZ AWB
Facility	SEC.10-T2N-R67W			

WELLPATH DATA (176 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
12323.00	90.740	0.940	7254.41	5222.83	5222.63	-574.95	1673909.19	14589380.89	40°10'19.118"N	104°52'48.375"W	1.26	
12417.00	91.940	0.610	7252.21	5316.79	5316.59	-573.67	1673910.33	14589474.81	40°10'20.047"N	104°52'48.359"W	1.32	
12512.00	89.880	1.580	7250.71	5411.76	5411.56	-571.86	1673912.02	14589569.74	40°10'20.985"N	104°52'48.336"W	2.40	
12606.00	91.350	1.220	7249.70	5505.72	5505.52	-569.56	1673914.18	14589663.67	40°10'21.914"N	104°52'48.306"W	1.61	
12699.00	92.900	0.690	7246.25	5598.64	5598.44	-568.01	1673915.61	14589756.56	40°10'22.832"N	104°52'48.286"W	1.76	
12793.00	90.460	2.060	7243.49	5692.56	5692.37	-565.76	1673917.73	14589850.45	40°10'23.760"N	104°52'48.257"W	2.98	
12887.00	90.490	1.950	7242.71	5786.50	5786.30	-562.47	1673920.89	14589944.35	40°10'24.688"N	104°52'48.215"W	0.12	
12980.00	91.320	1.840	7241.24	5879.44	5879.24	-559.39	1673923.84	14590037.26	40°10'25.607"N	104°52'48.175"W	0.90	
13072.00	92.890	1.470	7237.87	5971.33	5971.14	-556.74	1673926.36	14590129.12	40°10'26.515"N	104°52'48.141"W	1.75	
13166.00	90.340	0.080	7235.22	6065.28	6065.08	-555.47	1673927.50	14590223.03	40°10'27.443"N	104°52'48.125"W	3.09	
13259.00	90.090	358.890	7234.87	6158.27	6158.08	-556.31	1673926.54	14590315.98	40°10'28.362"N	104°52'48.136"W	1.31	
13353.00	91.330	359.390	7233.70	6252.25	6252.06	-557.72	1673925.00	14590409.92	40°10'29.291"N	104°52'48.154"W	1.42	
13446.00	87.720	356.790	7234.47	6345.17	6344.98	-560.81	1673921.78	14590502.80	40°10'30.209"N	104°52'48.194"W	4.78	
13539.00	87.630	356.330	7238.25	6437.93	6437.73	-566.39	1673916.08	14590595.51	40°10'31.126"N	104°52'48.266"W	0.50	
13633.00	85.530	357.860	7243.85	6531.64	6531.44	-571.15	1673911.19	14590689.17	40°10'32.052"N	104°52'48.327"W	2.76	
13727.00	85.530	0.250	7251.18	6625.33	6625.13	-572.69	1673909.52	14590782.83	40°10'32.978"N	104°52'48.347"W	2.53	
13820.00	87.080	1.470	7257.17	6718.12	6717.92	-571.30	1673910.79	14590875.58	40°10'33.895"N	104°52'48.329"W	2.12	
13914.00	87.810	1.090	7261.36	6812.00	6811.81	-569.20	1673912.75	14590969.43	40°10'34.822"N	104°52'48.302"W	0.88	
14008.00	88.520	0.820	7264.37	6905.94	6905.74	-567.63	1673914.19	14591063.33	40°10'35.751"N	104°52'48.282"W	0.81	
14102.00	91.330	2.820	7264.50	6999.88	6999.68	-564.65	1673917.05	14591157.24	40°10'36.679"N	104°52'48.243"W	3.67	
14195.00	92.030	2.910	7261.77	7092.72	7092.53	-560.00	1673921.56	14591250.05	40°10'37.597"N	104°52'48.183"W	0.76	
14289.00	92.590	2.450	7257.98	7186.54	7186.35	-555.61	1673925.82	14591343.84	40°10'38.524"N	104°52'48.127"W	0.77	
14382.00	93.600	1.480	7252.96	7279.35	7279.15	-552.43	1673928.88	14591436.61	40°10'39.441"N	104°52'48.086"W	1.50	
14477.00	93.630	0.570	7246.97	7374.14	7373.95	-550.73	1673930.45	14591531.37	40°10'40.378"N	104°52'48.064"W	0.96	
14571.00	92.340	0.940	7242.08	7468.00	7467.81	-549.49	1673931.55	14591625.20	40°10'41.305"N	104°52'48.048"W	1.43	
14665.00	93.260	0.290	7237.48	7561.88	7561.69	-548.49	1673932.43	14591719.04	40°10'42.233"N	104°52'48.035"W	1.20	
14759.00	90.620	0.280	7234.30	7655.82	7655.63	-548.02	1673932.77	14591812.94	40°10'43.161"N	104°52'48.029"W	2.81	
14853.00	91.660	0.630	7232.43	7749.79	7749.60	-547.27	1673933.39	14591906.88	40°10'44.090"N	104°52'48.020"W	1.17	
14947.00	90.550	359.870	7230.62	7843.77	7843.58	-546.86	1673933.67	14592000.83	40°10'45.019"N	104°52'48.014"W	1.43	
15041.00	90.650	359.870	7229.64	7937.77	7937.58	-547.08	1673933.33	14592094.78	40°10'45.947"N	104°52'48.017"W	0.11	
15135.00	92.030	359.010	7227.44	8031.74	8031.54	-547.99	1673932.28	14592188.71	40°10'46.876"N	104°52'48.029"W	1.73	
15229.00	90.650	359.580	7225.24	8125.70	8125.51	-549.15	1673930.99	14592282.64	40°10'47.804"N	104°52'48.044"W	1.59	
15323.00	91.380	359.490	7223.57	8219.68	8219.49	-549.91	1673930.10	14592376.58	40°10'48.733"N	104°52'48.054"W	0.78	
15417.00	89.630	359.090	7222.75	8313.67	8313.48	-551.08	1673928.81	14592470.52	40°10'49.662"N	104°52'48.069"W	1.91	
15512.00	90.770	358.970	7222.41	8408.65	8408.46	-552.69	1673927.07	14592565.47	40°10'50.601"N	104°52'48.090"W	1.21	
15606.00	92.400	358.700	7219.81	8502.59	8502.40	-554.60	1673925.03	14592659.37	40°10'51.529"N	104°52'48.114"W	1.76	
15673.00†	91.409	358.550	7217.59	8569.54	8569.34	-556.20	1673923.34	14592726.28	40°10'52.190"N	104°52'48.135"W	1.50	ENTER RADIUS TOE (2340'FSL & 1592'FWL, SEC.34) 40.1811640 -104.8800375
15700.00	91.010	358.490	7217.02	8596.52	8596.33	-556.90	1673922.60	14592753.26	40°10'52.457"N	104°52'48.144"W	1.50	
15794.00	90.710	357.470	7215.61	8690.45	8690.26	-560.21	1673919.16	14592847.14	40°10'53.385"N	104°52'48.187"W	1.13	
15866.00	91.110	356.810	7214.46	8762.36	8762.16	-563.80	1673915.47	14592919.01	40°10'54.096"N	104°52'48.233"W	1.07	LAST BHI MWD+IFR1+SC SURVEY
15913.00	91.110	356.810	7213.55	8809.28	8809.08	-566.42	1673912.79	14592965.91	40°10'54.560"N	104°52'48.267"W	0.00	PTB (2580'FSL & 1583'FWL, SEC.34) 40.1818221 -104.8800741

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#55 BUTTERBALL 22N2-34HZ (819'FNL & 2190'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 22N2-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 22N2-34HZ 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	367.20	-1810.16	1672681.13	14584525.71	40°09'31.136"N	104°53'04.283"W	polygon
SEC.10-T2N-R67W	-6.00	367.20	-1810.16	1672681.13	14584525.71	40°09'31.136"N	104°53'04.283"W	polygon
SEC.34-T3N-R67W	-6.00	367.20	-1810.16	1672681.13	14584525.71	40°09'31.136"N	104°53'04.283"W	polygon
BUTTERBALL 22N2-34HZ BHL REV-2(2581'FSL & 1573'FWL, SEC.34)	7231.00	8810.14	-576.15	1673903.07	14592966.95	40°10'54.570"N	104°52'48.392"W	point
BUTTERBALL 22N2-34HZ BHL REV-1(2581'FSL & 1573'FWL, SEC.34)	7251.00	8810.14	-576.18	1673903.04	14592966.95	40°10'54.570"N	104°52'48.392"W	point
BUTTERBALL 22N2-34HZ HEEL REV-2(207'FNL & 1614'FWL, SEC.10)	7296.00	613.44	-573.31	1673917.15	14584773.55	40°09'33.570"N	104°52'48.353"W	point
BUTTERBALL 22N2-34HZ HEEL REV-1(207'FNL & 1614'FWL, SEC.10)	7316.00	613.44	-573.29	1673917.17	14584773.55	40°09'33.570"N	104°52'48.353"W	point
BUTTERBALL 22N2-34HZ LANDBOX	7316.00	0.00	0.00	1674491.07	14584161.14	40°09'27.508"N	104°52'40.969"W	polygon
BUTTERBALL 22N2-34HZ RADIUS 1	7316.00	815.98	-873.40	1673616.90	14584975.60	40°09'35.571"N	104°52'52.218"W	polygon
BUTTERBALL 22N2-34HZ RADIUS 2	7316.00	8917.51	-856.88	1673622.30	14593073.90	40°10'55.631"N	104°52'52.009"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: BUTTERBALL 22N2-34HZ AWB				Ref Wellpath: BUTTERBALL 22N2-34HZ AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore
32.00	1793.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	SDI Custom APC ISCWSA Rev-2 MWD+IFR1 <130 - 1793>		BUTTERBALL 22N2-34HZ AWB
1793.00	15866.00	Custom APC ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHI Custom APC ISCWSA Rev-2 MWD+IFR1+SC <2018 - 15866>		BUTTERBALL 22N2-34HZ AWB
15866.00	15913.00	Blind Drilling (std)	Projection to bit		BUTTERBALL 22N2-34HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#55 BUTTERBALL 22N2-34HZ (819'FNL & 2190'FWL,SEC.10)
Area	COLORADO	Well	BUTTERBALL 22N2-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 22N2-34HZ AWB
Facility	SEC.10-T2N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
130.00	0.350	226.730	130.00	FIRST SDI MWD+IFR1 SURVEY
1793.00	11.660	262.450	1777.35	LAST SDI MWD+IFR1 SURVEY
2018.00	9.700	254.620	1998.45	FIRST BHI MWD+IFR1+SC SURVEY
2895.00	12.529	277.477	2855.04	ENTER LANDBOX (846'FSL & 1772'FWL,SEC.10) 40.1575622 -104.8795428
6682.00	2.768	337.712	6627.58	KOP
7849.00	87.170	1.500	7286.23	LANDING (68'FNL & 1632'FWL,SEC.10) 40.1597022 -104.8800445
8243.00	90.234	0.350	7285.62	EXIT RADIUS HEEL (326'FSL & 1638'FWL,SEC.03) 40.1607834 -104.8800221
15673.00	91.409	358.550	7217.59	ENTER RADIUS TOE (2340'FSL & 1592'FWL,SEC.34) 40.1811640 -104.8800375
15866.00	91.110	356.810	7214.46	LAST BHI MWD+IFR1+SC SURVEY
15913.00	91.110	356.810	7213.55	PTB (2580'FSL & 1583'FWL,SEC.34) 40.1818221 -104.8800741