



Actual Wellpath Report

BUTTERBALL 34C-11HZ AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 BUTTERBALL 34C-11HZ (567'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 34C-11HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 34C-11HZ AWB <13240>
Facility	SEC.10-T2N-R67W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 4.1.1
North Reference	True	User	Amarcar
Scale	0.999601	Report Generated	15/May/2015 at 15:08
Convergence at slot	0.08° East	Database/Source file	KERR MCGEE UTM/BUTTERBALL_34C-11HZ_AWB_13240_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	63.21	1806.91	1676052.29	14584406.91	40°09'29.916"N	104°52'20.849"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	XTREME 24 (16'KB) (RKB) to Facility Vertical Datum	4936.00ft
Horizontal Reference Pt	Slot	XTREME 24 (16'KB) (RKB) to Mean Sea Level	4936.00ft
Vertical Reference Pt	XTREME 24 (16'KB) (RKB)	XTREME 24 (16'KB) (RKB) to Mud Line at Slot (SLOT#21 BUTTERBALL 34C-11HZ (567'FNL & 1489'FEL, SEC.10))	4936.00ft
MD Reference Pt	XTREME 24 (16'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.93°

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Field	WELD COUNTY (UTM/TRUE NORTH)		Wellbore	BUTTERBALL 34C-11HZ AWB <13240>
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WELLPATH DATA (148 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	253.400	0.00	0.00	0.00	0.00	40°09'29.916"N	104°52'20.849"W	0.00	
16.00	0.000	253.400	16.00	0.00	0.00	0.00	40°09'29.916"N	104°52'20.849"W	0.00	
125.00	0.500	253.400	125.00	0.14	-0.14	-0.46	40°09'29.915"N	104°52'20.855"W	0.46	BEGIN MWD SURVEYS
215.00	0.300	225.900	215.00	0.41	-0.41	-1.00	40°09'29.912"N	104°52'20.862"W	0.30	
301.00	0.800	248.400	300.99	0.79	-0.79	-1.72	40°09'29.908"N	104°52'20.871"W	0.62	
388.00	0.500	221.600	387.99	1.29	-1.30	-2.54	40°09'29.903"N	104°52'20.882"W	0.48	
478.00	0.700	104.100	477.98	1.72	-1.72	-2.27	40°09'29.899"N	104°52'20.878"W	1.15	
572.00	0.600	82.900	571.98	1.80	-1.80	-1.22	40°09'29.898"N	104°52'20.865"W	0.28	
668.00	0.500	70.100	667.97	1.60	-1.60	-0.33	40°09'29.900"N	104°52'20.853"W	0.16	
763.00	0.700	77.300	762.97	1.33	-1.33	0.63	40°09'29.903"N	104°52'20.841"W	0.22	
859.00	0.800	81.200	858.96	1.10	-1.10	1.86	40°09'29.905"N	104°52'20.825"W	0.12	
952.00	0.800	54.600	951.95	0.63	-0.62	3.03	40°09'29.910"N	104°52'20.810"W	0.40	
1048.00	0.100	134.100	1047.95	0.30	-0.29	3.64	40°09'29.913"N	104°52'20.802"W	0.82	
1113.00	0.400	261.800	1112.95	0.37	-0.37	3.46	40°09'29.912"N	104°52'20.804"W	0.72	TIE-ONTO MWD SURVEYS
1197.00	1.050	254.120	1196.94	0.62	-0.62	2.43	40°09'29.910"N	104°52'20.818"W	0.78	BEGIN BHI MWD+IFR SURVEYS
1292.00	0.910	31.940	1291.93	0.22	-0.22	1.99	40°09'29.914"N	104°52'20.823"W	1.93	
1387.00	3.470	53.670	1386.86	-2.12	2.13	4.70	40°09'29.937"N	104°52'20.788"W	2.79	
1482.00	6.200	44.440	1481.51	-7.48	7.50	10.61	40°09'29.990"N	104°52'20.712"W	2.98	
1577.00	8.010	43.290	1575.78	-15.95	15.98	18.74	40°09'30.074"N	104°52'20.608"W	1.91	
1672.00	10.250	37.300	1669.57	-27.48	27.52	28.41	40°09'30.188"N	104°52'20.483"W	2.56	
1767.00	11.920	41.070	1762.80	-41.59	41.64	39.97	40°09'30.327"N	104°52'20.334"W	1.92	
1862.00	12.830	45.500	1855.59	-56.36	56.43	53.94	40°09'30.474"N	104°52'20.154"W	1.38	
1957.00	13.660	47.370	1948.06	-71.33	71.42	69.72	40°09'30.622"N	104°52'19.951"W	0.98	
2052.00	14.990	47.010	2040.11	-87.29	87.40	86.96	40°09'30.780"N	104°52'19.729"W	1.40	
2147.00	16.030	46.440	2131.65	-104.68	104.81	105.45	40°09'30.952"N	104°52'19.491"W	1.11	
2242.00	16.830	45.330	2222.77	-123.36	123.52	124.74	40°09'31.137"N	104°52'19.242"W	0.90	
2337.00	18.470	45.470	2313.29	-143.56	143.74	145.25	40°09'31.336"N	104°52'18.978"W	1.73	
2431.00	18.290	52.240	2402.51	-163.01	163.22	167.53	40°09'31.529"N	104°52'18.691"W	2.28	
2526.00	19.770	56.490	2492.32	-180.98	181.22	192.71	40°09'31.707"N	104°52'18.367"W	2.13	
2621.00	20.660	59.690	2581.47	-198.27	198.55	220.58	40°09'31.878"N	104°52'18.008"W	1.49	
2716.00	21.790	58.450	2670.02	-215.92	216.23	250.07	40°09'32.053"N	104°52'17.628"W	1.28	
2812.00	23.990	54.750	2758.46	-236.47	236.82	281.20	40°09'32.256"N	104°52'17.227"W	2.74	
2907.00	25.390	54.210	2844.78	-259.48	259.88	313.49	40°09'32.484"N	104°52'16.811"W	1.49	
3001.00	25.850	48.060	2929.55	-284.93	285.37	345.09	40°09'32.736"N	104°52'16.404"W	2.87	
3097.00	25.210	47.330	3016.17	-312.74	313.21	375.69	40°09'33.011"N	104°52'16.010"W	0.74	
3192.00	24.010	45.530	3102.54	-339.95	340.47	404.36	40°09'33.280"N	104°52'15.641"W	1.49	
3287.00	23.700	47.510	3189.43	-366.35	366.91	432.23	40°09'33.542"N	104°52'15.282"W	0.90	
3382.00	23.530	46.580	3276.48	-392.25	392.84	460.08	40°09'33.798"N	104°52'14.923"W	0.43	
3477.00	20.680	46.520	3364.48	-416.80	417.42	486.04	40°09'34.041"N	104°52'14.589"W	3.00	
3572.00	19.360	49.050	3453.74	-438.63	439.28	510.10	40°09'34.257"N	104°52'14.279"W	1.66	
3667.00	17.590	45.810	3543.85	-458.93	459.61	532.29	40°09'34.458"N	104°52'13.993"W	2.15	
3762.00	17.140	45.770	3634.52	-478.68	479.38	552.61	40°09'34.653"N	104°52'13.732"W	0.47	
3856.00	16.780	48.940	3724.43	-497.23	497.96	572.77	40°09'34.837"N	104°52'13.472"W	1.06	
3951.00	17.950	48.790	3815.10	-515.85	516.61	594.12	40°09'35.021"N	104°52'13.197"W	1.23	
4046.00	18.880	54.960	3905.24	-534.29	535.08	617.72	40°09'35.204"N	104°52'12.893"W	2.27	

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Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 34C-11HZ AWP <13240>
Facility	SEC.10-T2N-R67W		

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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4141.00	20.790	52.140	3994.60	-553.43	554.25	643.62	40°09'35.393"N	104°52'12.559"W	2.25	
4235.00	21.880	51.320	4082.16	-574.58	575.44	670.47	40°09'35.602"N	104°52'12.214"W	1.20	
4330.00	22.100	46.960	4170.25	-597.81	598.70	697.35	40°09'35.832"N	104°52'11.867"W	1.73	
4425.00	21.040	44.130	4258.60	-622.22	623.14	722.29	40°09'36.074"N	104°52'11.546"W	1.56	
4520.00	20.130	44.940	4347.54	-646.00	646.95	745.71	40°09'36.309"N	104°52'11.244"W	1.00	
4614.00	21.280	44.780	4435.46	-669.53	670.51	769.15	40°09'36.542"N	104°52'10.943"W	1.22	
4709.00	20.770	44.970	4524.14	-693.65	694.66	793.20	40°09'36.781"N	104°52'10.633"W	0.54	
4804.00	21.940	44.140	4612.61	-718.28	719.32	817.46	40°09'37.024"N	104°52'10.320"W	1.27	
4899.00	22.080	44.730	4700.69	-743.67	744.74	842.39	40°09'37.275"N	104°52'09.999"W	0.28	
4994.00	19.430	48.410	4789.52	-766.81	767.92	866.78	40°09'37.504"N	104°52'09.685"W	3.11	
5088.00	19.500	44.240	4878.15	-788.40	789.54	889.42	40°09'37.718"N	104°52'09.393"W	1.48	
5183.00	20.160	47.020	4967.52	-810.89	812.06	912.46	40°09'37.941"N	104°52'09.097"W	1.21	
5278.00	20.200	52.080	5056.70	-832.11	833.30	937.37	40°09'38.151"N	104°52'08.776"W	1.84	
5373.00	21.220	51.730	5145.56	-852.80	854.03	963.81	40°09'38.355"N	104°52'08.435"W	1.08	
5468.00	19.500	51.790	5234.62	-873.22	874.49	989.77	40°09'38.558"N	104°52'08.101"W	1.81	
5563.00	20.030	51.100	5324.02	-893.22	894.51	1014.89	40°09'38.755"N	104°52'07.777"W	0.61	
5658.00	21.550	53.430	5412.83	-913.80	915.12	1041.57	40°09'38.959"N	104°52'07.434"W	1.82	
5753.00	20.360	55.890	5501.55	-933.42	934.79	1069.26	40°09'39.153"N	104°52'07.077"W	1.56	
5848.00	20.540	52.150	5590.57	-952.89	954.28	1096.11	40°09'39.346"N	104°52'06.731"W	1.39	
5942.00	21.040	46.950	5678.46	-974.49	975.92	1121.46	40°09'39.560"N	104°52'06.405"W	2.03	
6037.00	20.400	45.930	5767.31	-997.62	999.08	1145.82	40°09'39.789"N	104°52'06.091"W	0.77	
6132.00	19.630	48.360	5856.57	-1019.71	1021.20	1169.64	40°09'40.007"N	104°52'05.784"W	1.19	
6227.00	20.430	49.500	5945.83	-1041.05	1042.57	1194.18	40°09'40.218"N	104°52'05.468"W	0.94	
6322.00	21.670	48.010	6034.49	-1063.52	1065.07	1219.82	40°09'40.441"N	104°52'05.138"W	1.42	
6417.00	22.610	51.420	6122.48	-1086.61	1088.20	1247.14	40°09'40.669"N	104°52'04.786"W	1.68	
6512.00	22.830	51.970	6210.11	-1109.31	1110.94	1275.93	40°09'40.894"N	104°52'04.415"W	0.32	
6606.00	22.870	52.300	6296.74	-1131.68	1133.35	1304.75	40°09'41.115"N	104°52'04.044"W	0.14	
6701.00	21.170	51.590	6384.80	-1153.59	1155.29	1332.80	40°09'41.332"N	104°52'03.683"W	1.81	
6796.00	19.840	49.950	6473.78	-1174.59	1176.33	1358.58	40°09'41.540"N	104°52'03.350"W	1.52	
6891.00	15.760	49.410	6564.22	-1193.34	1195.10	1380.73	40°09'41.726"N	104°52'03.065"W	4.30	
6986.00	13.610	96.240	6656.42	-1200.52	1202.31	1401.71	40°09'41.797"N	104°52'02.795"W	12.35	
7081.00	18.180	120.100	6747.86	-1191.83	1193.64	1425.68	40°09'41.711"N	104°52'02.486"W	8.30	
7176.00	19.090	138.410	6837.95	-1172.73	1174.58	1448.83	40°09'41.523"N	104°52'02.188"W	6.21	
7271.00	23.590	147.000	6926.44	-1145.12	1146.99	1469.51	40°09'41.250"N	104°52'01.922"W	5.76	
7366.00	28.210	148.940	7011.88	-1109.90	1111.80	1491.46	40°09'40.902"N	104°52'01.639"W	4.94	
7461.00	34.440	156.840	7093.02	-1065.87	1067.80	1513.64	40°09'40.468"N	104°52'01.353"W	7.84	
7546.00†	40.975	159.326	7160.24	-1017.62	1019.58	1532.96	40°09'39.991"N	104°52'01.105"W	7.89	NIOBRARA
7555.00	41.670	159.550	7167.00	-1012.05	1014.01	1535.05	40°09'39.936"N	104°52'01.078"W	7.89	
7604.00†	45.182	161.950	7202.58	-980.24	982.21	1546.13	40°09'39.622"N	104°52'00.935"W	7.92	NIOBRARA B
7650.00	48.520	163.950	7234.04	-948.15	950.13	1555.95	40°09'39.305"N	104°52'00.808"W	7.92	
7698.00†	52.405	166.001	7264.59	-912.39	914.38	1565.52	40°09'38.951"N	104°52'00.685"W	8.74	NIOBRARA C
7745.00	56.240	167.810	7292.00	-875.20	877.20	1574.16	40°09'38.584"N	104°52'00.574"W	8.74	
7840.00	64.370	169.690	7339.02	-794.30	796.33	1590.19	40°09'37.785"N	104°52'00.368"W	8.73	
7935.00	72.180	170.210	7374.16	-707.45	709.50	1605.57	40°09'36.927"N	104°52'00.170"W	8.24	
8006.00†	77.360	173.418	7392.81	-639.66	641.72	1615.29	40°09'36.257"N	104°52'00.044"W	8.50	FORT HAYS

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8030.00	79.120	174.470	7397.70	-616.29	618.35	1617.77	40°09'36.026"N	104°52'00.013"W	8.50	
8125.00	80.440	173.990	7414.56	-523.26	525.34	1627.17	40°09'35.107"N	104°51'59.892"W	1.48	
8131.00†	81.045	174.272	7415.52	-517.37	519.45	1627.78	40°09'35.049"N	104°51'59.884"W	11.09	CODELL
8220.00	90.030	178.380	7422.44	-428.93	431.01	1633.44	40°09'34.175"N	104°51'59.811"W	11.09	LANDING POINT
8315.00	90.120	177.310	7422.32	-333.99	336.08	1637.01	40°09'33.237"N	104°51'59.765"W	1.13	
8410.00	91.440	177.860	7421.02	-239.08	241.17	1641.01	40°09'32.299"N	104°51'59.714"W	1.51	
8504.00	89.660	178.230	7420.12	-145.14	147.23	1644.22	40°09'31.370"N	104°51'59.672"W	1.93	
8599.00	89.070	179.590	7421.17	-50.16	52.26	1646.03	40°09'30.432"N	104°51'59.649"W	1.56	
8694.00	88.400	181.500	7423.27	44.80	-42.71	1645.12	40°09'29.493"N	104°51'59.661"W	2.13	
8789.00	87.680	180.470	7426.52	139.73	-137.64	1643.49	40°09'28.555"N	104°51'59.682"W	1.32	
8884.00	89.320	180.450	7429.01	234.69	-232.60	1642.73	40°09'27.617"N	104°51'59.692"W	1.73	
8979.00	89.410	180.180	7430.06	329.68	-327.59	1642.21	40°09'26.678"N	104°51'59.699"W	0.30	
9074.00	88.790	181.030	7431.55	424.66	-422.57	1641.20	40°09'25.740"N	104°51'59.712"W	1.11	
9168.00	88.700	180.310	7433.61	518.63	-516.54	1640.10	40°09'24.811"N	104°51'59.726"W	0.77	
9263.00	89.130	180.160	7435.41	613.61	-611.52	1639.71	40°09'23.872"N	104°51'59.731"W	0.48	
9357.00	87.770	180.990	7437.95	707.57	-705.48	1638.77	40°09'22.944"N	104°51'59.743"W	1.69	
9452.00	88.520	181.410	7441.03	802.50	-800.41	1636.78	40°09'22.006"N	104°51'59.769"W	0.90	
9547.00	88.550	180.340	7443.46	897.45	-895.37	1635.33	40°09'21.067"N	104°51'59.788"W	1.13	
9642.00	88.460	180.340	7445.94	992.41	-990.33	1634.77	40°09'20.129"N	104°51'59.795"W	0.09	
9737.00	89.380	180.470	7447.73	1087.39	-1085.31	1634.10	40°09'19.190"N	104°51'59.804"W	0.98	
9832.00	90.580	180.030	7447.76	1182.39	-1180.31	1633.68	40°09'18.252"N	104°51'59.809"W	1.35	
9926.00	88.460	179.560	7448.55	1276.38	-1274.30	1634.02	40°09'17.323"N	104°51'59.805"W	2.31	
10021.00	87.690	180.420	7451.74	1371.33	-1369.24	1634.04	40°09'16.385"N	104°51'59.805"W	1.21	
10116.00	87.780	180.030	7455.49	1466.25	-1464.17	1633.66	40°09'15.446"N	104°51'59.810"W	0.42	
10210.00	87.380	179.550	7459.46	1560.17	-1558.08	1634.01	40°09'14.518"N	104°51'59.805"W	0.66	
10305.00	87.070	179.420	7464.06	1655.05	-1652.97	1634.86	40°09'13.581"N	104°51'59.794"W	0.35	
10400.00	89.320	178.840	7467.05	1749.99	-1747.90	1636.30	40°09'12.643"N	104°51'59.776"W	2.45	
10495.00	89.100	179.530	7468.36	1844.97	-1842.89	1637.65	40°09'11.704"N	104°51'59.759"W	0.76	
10589.00	89.750	179.410	7469.31	1938.96	-1936.88	1638.52	40°09'10.775"N	104°51'59.747"W	0.70	
10684.00	90.090	180.570	7469.44	2033.96	-2031.87	1638.54	40°09'09.836"N	104°51'59.747"W	1.27	
10779.00	89.100	181.650	7470.11	2128.94	-2126.85	1636.70	40°09'08.898"N	104°51'59.771"W	1.54	
10874.00	88.950	180.590	7471.73	2223.90	-2221.82	1634.84	40°09'07.959"N	104°51'59.795"W	1.13	
10968.00	89.010	179.620	7473.40	2317.88	-2315.80	1634.67	40°09'07.031"N	104°51'59.797"W	1.03	
11063.00	89.350	179.480	7474.76	2412.87	-2410.79	1635.42	40°09'06.092"N	104°51'59.788"W	0.39	
11158.00	88.860	180.220	7476.24	2507.86	-2505.78	1635.66	40°09'05.153"N	104°51'59.785"W	0.93	
11253.00	87.040	179.480	7479.64	2602.79	-2600.71	1635.91	40°09'04.215"N	104°51'59.782"W	2.07	
11348.00	87.220	179.340	7484.40	2697.67	-2695.59	1636.89	40°09'03.278"N	104°51'59.769"W	0.24	
11443.00	87.260	179.640	7488.97	2792.56	-2790.47	1637.73	40°09'02.340"N	104°51'59.758"W	0.32	
11538.00	88.370	179.160	7492.60	2887.48	-2885.40	1638.73	40°09'01.402"N	104°51'59.746"W	1.27	
11633.00	89.140	180.120	7494.66	2982.46	-2980.37	1639.33	40°09'00.463"N	104°51'59.738"W	1.30	
11728.00	90.950	180.050	7494.59	3077.45	-3075.37	1639.18	40°08'59.525"N	104°51'59.740"W	1.91	
11823.00	89.500	179.640	7494.21	3172.45	-3170.36	1639.44	40°08'58.586"N	104°51'59.737"W	1.59	
11917.00	90.210	179.260	7494.45	3266.44	-3264.36	1640.34	40°08'57.657"N	104°51'59.725"W	0.86	
12012.00	88.700	179.600	7495.35	3361.43	-3359.35	1641.29	40°08'56.718"N	104°51'59.713"W	1.63	
12106.00	88.610	178.410	7497.56	3455.39	-3453.30	1642.92	40°08'55.790"N	104°51'59.692"W	1.27	

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)		Slot	SLOT#21 BUTTERBALL 34C-11HZ (567'FNL & 1489'FEL, SEC.10)
Area	COLORADO		Well	BUTTERBALL 34C-11HZ
Field	WELD COUNTY (UTM/TRUE NORTH)		Wellbore	BUTTERBALL 34C-11HZ AWB <13240>
Facility	SEC.10-T2N-R67W			

WELLPATH DATA (148 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12201.00	88.300	179.620	7500.12	3550.35	-3548.25	1644.55	40°08'54.851"N	104°51'59.671"W	1.31	
12296.00	88.480	178.720	7502.79	3645.30	-3643.20	1645.93	40°08'53.913"N	104°51'59.653"W	0.97	
12391.00	89.590	178.980	7504.39	3740.27	-3738.17	1647.84	40°08'52.975"N	104°51'59.629"W	1.20	
12486.00	90.490	181.400	7504.32	3835.26	-3833.16	1647.52	40°08'52.036"N	104°51'59.633"W	2.72	
12582.00	91.440	181.330	7502.71	3931.21	-3929.12	1645.23	40°08'51.088"N	104°51'59.663"W	0.99	
12676.00	89.560	181.390	7501.89	4025.18	-4023.09	1643.00	40°08'50.159"N	104°51'59.691"W	2.00	
12771.00	90.490	181.310	7501.85	4120.15	-4118.06	1640.76	40°08'49.221"N	104°51'59.720"W	0.98	
12867.00	89.530	180.810	7501.83	4216.12	-4214.04	1638.99	40°08'48.272"N	104°51'59.743"W	1.13	
12962.00	89.960	180.630	7502.25	4311.11	-4309.03	1637.80	40°08'47.333"N	104°51'59.759"W	0.49	
13057.00	90.860	180.550	7501.57	4406.10	-4404.02	1636.82	40°08'46.395"N	104°51'59.771"W	0.95	
13152.00	91.320	180.020	7499.77	4501.09	-4499.00	1636.34	40°08'45.456"N	104°51'59.778"W	0.74	
13188.00	91.690	180.040	7498.82	4537.07	-4534.99	1636.33	40°08'45.100"N	104°51'59.778"W	1.03	LAST BHI MWD+IFR SURVEYS
13240.00	91.690	180.040	7497.29	4589.05	-4586.97	1636.29	40°08'44.587"N	104°51'59.778"W	0.00	PROJECTION TO BIT

HOLE & CASING SECTIONS - Ref Wellbore: BUTTERBALL 34C-11HZ AWB <13240> Ref Wellpath: BUTTERBALL 34C-11HZ 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	16.00	1158.00	1142.00	16.00	1157.95	0.00	0.00	-0.46	3.02
9.625in Casing Surface	16.00	1148.00	1132.00	16.00	1147.95	0.00	0.00	-0.43	3.14
7.875in Open Hole	1158.00	13240.00	12082.00	1157.95	7497.29	-0.46	3.02	-4586.97	1636.29

TARGETS									
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	
SEC.10-T2N-R67W SECTION LINES	-77.00	-4217.63	-3268.32	1672791.33	14580186.29	40°08'48.235"N	104°53'02.936"W	polygon	
SEC.11-T2N-R67W SECTION LINES	-13.00	-9436.68	4509.45	1680573.47	14574980.49	40°07'56.658"N	104°51'22.792"W	polygon	
BUTTERBALL 34C-11HZ BHL ON PLAT REV-3 (130'FSL & 175'FWL, SEC.11)	7536.00	-4587.90	1633.25	1677691.47	14579823.20	40°08'44.578"N	104°51'59.818"W	point	
BUTTERBALL 34C-11HZ LANBOX	7536.00	0.00	0.00	1676052.29	14584406.91	40°09'29.916"N	104°52'20.849"W	polygon	

WELLPATH COMPOSITION - Ref Wellbore: BUTTERBALL 34C-11HZ AWB <13240> Ref Wellpath: BUTTERBALL 34C-11HZ AWP									
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment		Wellbore			
16.00	1113.00	ISCWSA MWD, Rev. 2 (Standard)		CATHEDRAL MWD SURVEYS 13.5" <125-1113>		BUTTERBALL 34C-11HZ AWB <13240>			
1113.00	13188.00	Custom APC, ISCWSA REV 2 MWD+IFR1+SC (approximation)		BHI MWD+IFR SURVEYS 7 7/8" <1197-13188>		BUTTERBALL 34C-11HZ AWB <13240>			
13188.00	13240.00	Blind Drilling (std)		Projection to bit		BUTTERBALL 34C-11HZ AWB <13240>			



Actual Wellpath Report

BUTTERBALL 34C-11HZ AWP
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REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)		Slot	SLOT#21 BUTTERBALL 34C-11HZ (567'FNL & 1489'FEL, SEC.10)
Area	COLORADO		Well	BUTTERBALL 34C-11HZ
Field	WELD COUNTY (UTM/TRUE NORTH)		Wellbore	BUTTERBALL 34C-11HZ AWB <13240>
Facility	SEC.10-T2N-R67W			

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
125.00	0.500	253.400	125.00	BEGIN MWD SURVEYS	
1113.00	0.400	261.800	1112.95	TIE-ONTO MWD SURVEYS	
1197.00	1.050	254.120	1196.94	BEGIN BHI MWD+IFR SURVEYS	
7546.00	40.975	159.326	7160.24	NIOBRARA	
7604.00	45.182	161.950	7202.58	NIOBRARA B	
7698.00	52.405	166.001	7264.59	NIOBRARA C	
8006.00	77.360	173.418	7392.81	FORT HAYS	
8131.00	81.045	174.272	7415.52	CODELL	
8220.00	90.030	178.380	7422.44	LANDING POINT	
13188.00	91.690	180.040	7498.82	LAST BHI MWD+IFR SURVEYS	
13240.00	91.690	180.040	7497.29	PROJECTION TO BIT	