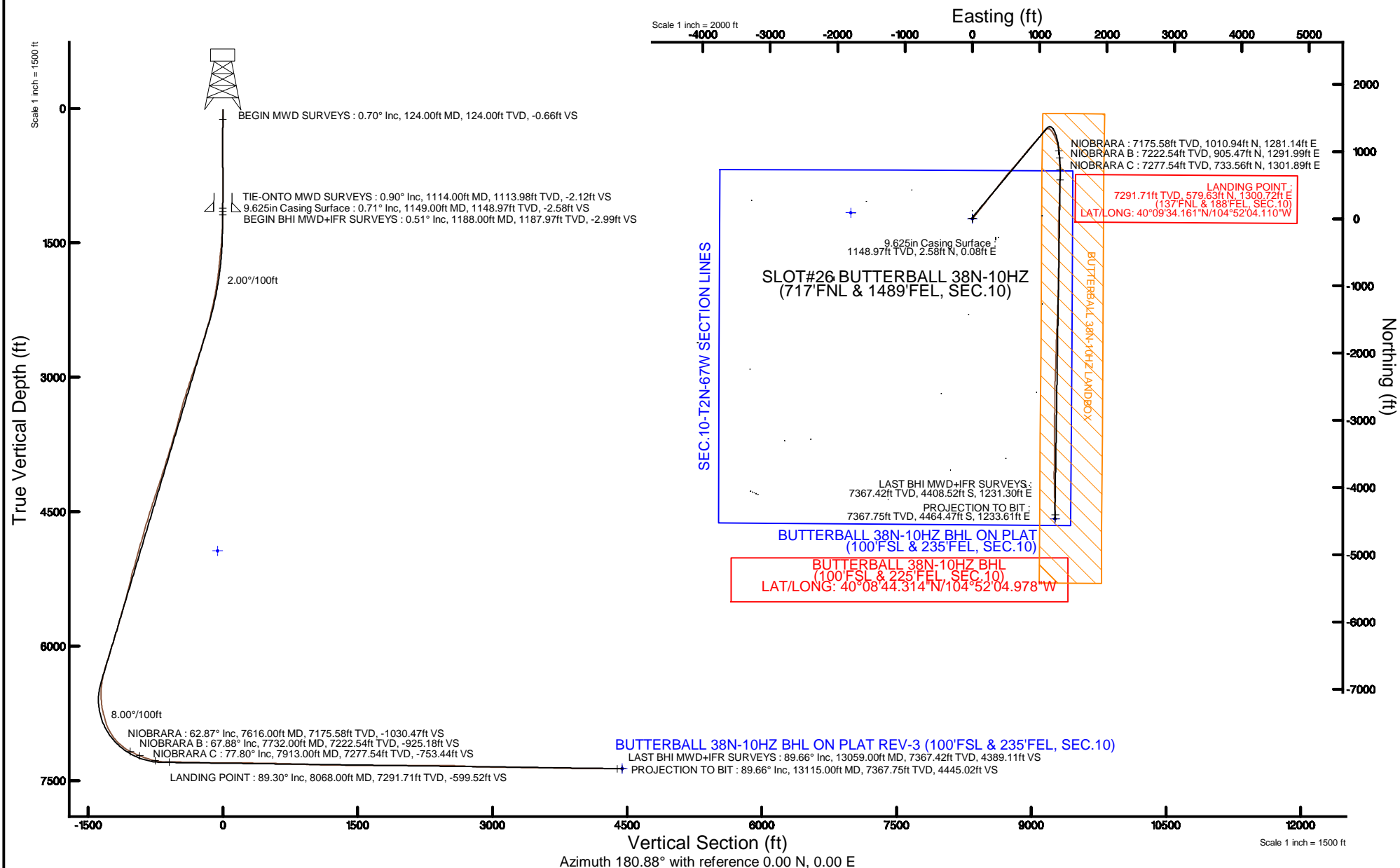


Location:	COLORADO	Slot:	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Field:	WELD COUNTY (UTM/TRUE NORTH)	Well:	BUTTERBALL 38N-10HZ
Facility:	SEC.10-T2N-R67W	Wellbore:	BUTTERBALL 38N-10HZ PWB

Plot reference wellpath is BUTTERBALL 38N-10HZ (REV-A.1) PWP	
True vertical depths are referenced to XTREME 24 (16'KB) (RKB)	Grid System: NAD83 / UTM Zone 13 North, US feet
Measured depths are referenced to XTREME 24 (16'KB) (RKB)	North Reference: True north
XTREME 24 (16'KB) (RKB) to Mean Sea Level: 4936 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#26 BUTTERBALL 38N-10HZ (717FNL & 1489FEL, SEC.10): 0 feet	Depths are in feet
Coordinates are in foot referenced to Slot	Created by: amarcar on 18/May/2015





Actual Wellpath Report

BUTTERBALL 38N-10HZ AWP
Page 1 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 38N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 38N-10HZ AWB <13115>
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	18/May/2015 at 08:22
Convergence at slot	0.08° East	Database/Source file	KERR MCGEE UTM/BUTTERBALL_38N-10HZ_AWB_13115_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-86.86	1805.84	1676051.42	14584256.90	40°09'28.433"N	104°52'20.863"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#26 BUTTERBALL 38N-10HZ (717'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	180.88°

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 38N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 38N-10HZ AWB <13115>
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (129 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	6.200	0.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
16.00	0.000	6.200	16.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
124.00	0.700	6.200	124.00	-0.66	0.66	0.07	40°09'28.439"N	104°52'20.862"W	0.65	BEGIN MWD SURVEYS
211.00	0.200	25.200	210.99	-1.32	1.32	0.19	40°09'28.446"N	104°52'20.861"W	0.59	
297.00	0.100	44.500	296.99	-1.52	1.51	0.31	40°09'28.448"N	104°52'20.859"W	0.13	
384.00	0.300	87.300	383.99	-1.58	1.58	0.59	40°09'28.449"N	104°52'20.855"W	0.27	
474.00	0.300	107.400	473.99	-1.53	1.52	1.05	40°09'28.448"N	104°52'20.849"W	0.12	
568.00	0.400	85.000	567.99	-1.50	1.47	1.61	40°09'28.448"N	104°52'20.842"W	0.18	
664.00	0.400	231.500	663.99	-1.32	1.29	1.68	40°09'28.446"N	104°52'20.841"W	0.80	
760.00	0.600	219.900	759.99	-0.71	0.70	1.10	40°09'28.440"N	104°52'20.849"W	0.23	
855.00	0.200	320.200	854.98	-0.45	0.44	0.67	40°09'28.437"N	104°52'20.854"W	0.70	
948.00	0.200	3.600	947.98	-0.74	0.73	0.58	40°09'28.440"N	104°52'20.856"W	0.16	
1045.00	0.500	345.300	1044.98	-1.32	1.31	0.48	40°09'28.446"N	104°52'20.857"W	0.33	
1114.00	0.900	341.300	1113.98	-2.12	2.11	0.23	40°09'28.454"N	104°52'20.860"W	0.58	TIE-ONTO MWD SURVEYS
1188.00	0.510	348.150	1187.97	-2.99	2.99	-0.02	40°09'28.463"N	104°52'20.863"W	0.54	BEGIN BHI MWD+IFR SURVEYS
1283.00	2.160	51.950	1282.94	-4.52	4.50	1.30	40°09'28.478"N	104°52'20.846"W	2.09	
1378.00	4.430	45.000	1377.78	-8.28	8.20	5.31	40°09'28.514"N	104°52'20.795"W	2.42	
1473.00	6.100	50.050	1472.38	-14.22	14.04	11.77	40°09'28.572"N	104°52'20.711"W	1.82	
1568.00	6.960	35.150	1566.77	-22.27	21.99	18.96	40°09'28.650"N	104°52'20.619"W	1.99	
1663.00	7.830	39.110	1660.98	-32.11	31.71	26.35	40°09'28.746"N	104°52'20.524"W	1.06	
1758.00	7.270	37.950	1755.15	-41.99	41.47	34.13	40°09'28.843"N	104°52'20.423"W	0.61	
1853.00	8.760	37.440	1849.22	-52.60	51.96	42.23	40°09'28.946"N	104°52'20.319"W	1.57	
1948.00	10.370	39.210	1942.90	-65.12	64.33	52.03	40°09'29.069"N	104°52'20.193"W	1.72	
2043.00	12.710	37.690	2035.97	-80.20	79.23	63.82	40°09'29.216"N	104°52'20.041"W	2.48	
2138.00	14.420	36.900	2128.32	-98.13	96.96	77.32	40°09'29.391"N	104°52'19.867"W	1.81	
2233.00	15.530	39.530	2220.09	-117.63	116.23	92.52	40°09'29.582"N	104°52'19.671"W	1.37	
2328.00	17.490	38.500	2311.17	-138.87	137.21	109.50	40°09'29.789"N	104°52'19.453"W	2.09	
2423.00	19.200	39.200	2401.34	-162.44	160.49	128.26	40°09'30.019"N	104°52'19.211"W	1.81	
2518.00	20.400	40.330	2490.82	-187.26	185.00	148.67	40°09'30.261"N	104°52'18.948"W	0.97	
2613.00	20.790	37.710	2579.86	-213.33	210.75	169.52	40°09'30.516"N	104°52'18.680"W	1.24	
2708.00	21.590	37.260	2668.43	-240.89	238.00	190.41	40°09'30.785"N	104°52'18.411"W	0.86	
2803.00	22.130	36.110	2756.60	-269.58	266.37	211.54	40°09'31.065"N	104°52'18.139"W	0.73	
2898.00	22.580	36.960	2844.46	-298.94	295.40	233.05	40°09'31.352"N	104°52'17.861"W	0.58	
2993.00	23.030	38.130	2932.04	-328.47	324.59	255.49	40°09'31.641"N	104°52'17.572"W	0.67	
3088.00	22.490	41.150	3019.64	-357.13	352.89	278.92	40°09'31.920"N	104°52'17.271"W	1.35	
3183.00	23.180	38.830	3107.20	-385.73	381.14	302.60	40°09'32.199"N	104°52'16.966"W	1.19	
3278.00	21.770	38.540	3194.98	-414.42	409.48	325.30	40°09'32.480"N	104°52'16.673"W	1.49	
3373.00	19.720	37.780	3283.82	-441.19	435.93	346.10	40°09'32.741"N	104°52'16.405"W	2.18	
3468.00	19.090	36.450	3373.42	-466.64	461.10	365.15	40°09'32.990"N	104°52'16.160"W	0.81	
3563.00	18.240	37.710	3463.42	-491.18	485.36	383.47	40°09'33.229"N	104°52'15.924"W	0.99	
3658.00	18.900	38.730	3553.48	-515.23	509.12	402.19	40°09'33.464"N	104°52'15.683"W	0.77	
3753.00	19.970	37.360	3643.06	-540.42	534.02	421.66	40°09'33.710"N	104°52'15.432"W	1.22	
3848.00	20.590	38.120	3732.17	-566.77	560.05	441.82	40°09'33.967"N	104°52'15.173"W	0.71	
3943.00	20.770	37.440	3821.05	-593.59	586.57	462.37	40°09'34.229"N	104°52'14.908"W	0.32	
4038.00	21.300	38.570	3909.72	-620.78	613.44	483.37	40°09'34.495"N	104°52'14.637"W	0.70	

Actual Wellpath Report

BUTTERBALL 38N-10HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 38N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 38N-10HZ AWP <13115>
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (129 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4133.00	22.210	38.640	3997.96	-648.63	640.95	505.34	40°09'34.767"N	104°52'14.354"W	0.96	
4227.00	22.420	42.200	4084.92	-676.14	668.11	528.48	40°09'35.035"N	104°52'14.056"W	1.46	
4322.00	23.350	40.500	4172.44	-704.25	695.85	552.87	40°09'35.309"N	104°52'13.742"W	1.20	
4417.00	23.520	41.620	4259.61	-733.11	724.33	577.69	40°09'35.591"N	104°52'13.423"W	0.50	
4512.00	23.010	40.820	4346.88	-761.71	752.55	602.42	40°09'35.870"N	104°52'13.104"W	0.63	
4607.00	23.180	41.600	4434.27	-790.11	780.59	626.97	40°09'36.147"N	104°52'12.788"W	0.37	
4701.00	21.690	40.940	4521.15	-817.43	807.54	650.63	40°09'36.413"N	104°52'12.483"W	1.61	
4796.00	21.840	39.510	4609.38	-844.67	834.44	673.38	40°09'36.679"N	104°52'12.190"W	0.58	
4891.00	20.860	38.400	4697.86	-871.89	861.33	695.13	40°09'36.945"N	104°52'11.910"W	1.12	
4986.00	19.980	42.790	4786.89	-897.39	886.50	716.66	40°09'37.193"N	104°52'11.633"W	1.86	
5080.00	18.900	39.090	4875.54	-921.30	910.10	737.17	40°09'37.427"N	104°52'11.368"W	1.74	
5175.00	20.050	38.560	4965.10	-946.28	934.78	757.03	40°09'37.670"N	104°52'11.113"W	1.22	
5270.00	20.120	37.990	5054.32	-972.20	960.39	777.23	40°09'37.923"N	104°52'10.852"W	0.22	
5365.00	19.160	40.160	5143.80	-997.30	985.18	797.35	40°09'38.168"N	104°52'10.593"W	1.27	
5460.00	18.390	40.370	5233.74	-1020.93	1008.51	817.11	40°09'38.399"N	104°52'10.339"W	0.81	
5555.00	18.420	38.060	5323.88	-1044.45	1031.75	836.07	40°09'38.629"N	104°52'10.095"W	0.77	
5650.00	18.990	41.220	5413.87	-1068.19	1055.19	855.51	40°09'38.860"N	104°52'09.844"W	1.22	
5745.00	19.130	42.050	5503.66	-1091.69	1078.38	876.12	40°09'39.089"N	104°52'09.579"W	0.32	
5840.00	20.210	42.110	5593.11	-1115.75	1102.11	897.55	40°09'39.324"N	104°52'09.303"W	1.14	
5934.00	19.960	40.140	5681.40	-1140.38	1126.42	918.78	40°09'39.564"N	104°52'09.029"W	0.77	
6029.00	20.310	39.890	5770.59	-1165.75	1151.47	939.80	40°09'39.812"N	104°52'08.758"W	0.38	
6124.00	22.320	40.940	5859.09	-1192.37	1177.75	962.20	40°09'40.071"N	104°52'08.470"W	2.15	
6219.00	21.980	42.130	5947.08	-1219.54	1204.56	985.95	40°09'40.336"N	104°52'08.164"W	0.59	
6314.00	21.420	38.360	6035.35	-1246.68	1231.35	1008.64	40°09'40.601"N	104°52'07.872"W	1.58	
6409.00	21.610	38.110	6123.73	-1274.37	1258.72	1030.20	40°09'40.871"N	104°52'07.594"W	0.22	
6504.00	20.800	38.890	6212.30	-1301.59	1285.61	1051.59	40°09'41.137"N	104°52'07.318"W	0.90	
6599.00	20.040	43.470	6301.33	-1326.87	1310.55	1073.38	40°09'41.384"N	104°52'07.038"W	1.86	
6693.00	14.870	55.440	6391.00	-1345.74	1329.10	1094.41	40°09'41.567"N	104°52'06.767"W	6.67	
6788.00	10.680	74.660	6483.67	-1355.27	1338.35	1112.96	40°09'41.658"N	104°52'06.528"W	6.23	
6883.00	11.730	99.960	6576.92	-1356.21	1339.01	1130.97	40°09'41.665"N	104°52'06.296"W	5.25	
6978.00	14.600	125.420	6669.49	-1347.88	1330.40	1150.26	40°09'41.580"N	104°52'06.048"W	6.74	
7073.00	18.130	138.800	6760.66	-1330.11	1312.32	1169.77	40°09'41.401"N	104°52'05.796"W	5.41	
7168.00	21.640	147.220	6850.00	-1304.55	1286.46	1189.00	40°09'41.146"N	104°52'05.549"W	4.76	
7263.00	29.450	152.360	6935.65	-1269.39	1250.98	1209.35	40°09'40.795"N	104°52'05.287"W	8.54	
7358.00	39.070	155.550	7014.08	-1221.69	1202.93	1232.63	40°09'40.320"N	104°52'04.987"W	10.30	
7453.00	48.160	162.200	7082.83	-1160.95	1141.82	1255.90	40°09'39.716"N	104°52'04.687"W	10.71	
7548.00	56.190	171.120	7141.11	-1088.32	1068.92	1272.86	40°09'38.996"N	104°52'04.469"W	11.23	
7616.00†	62.865	172.580	7175.58	-1030.47	1010.94	1281.14	40°09'38.423"N	104°52'04.362"W	9.99	NIOBRARA
7643.00	65.520	173.110	7187.33	-1006.40	986.82	1284.16	40°09'38.184"N	104°52'04.323"W	9.99	
7732.00†	67.876	175.877	7222.54	-925.18	905.47	1291.99	40°09'37.381"N	104°52'04.222"W	3.89	NIOBRARA B
7737.00	68.010	176.030	7224.42	-920.57	900.85	1292.32	40°09'37.335"N	104°52'04.218"W	3.89	
7832.00	72.310	176.780	7256.65	-831.50	811.68	1297.91	40°09'36.454"N	104°52'04.146"W	4.59	
7913.00†	77.801	177.379	7277.54	-753.44	733.56	1301.89	40°09'35.682"N	104°52'04.095"W	6.82	NIOBRARA C
7927.00	78.750	177.480	7280.38	-739.76	719.86	1302.50	40°09'35.546"N	104°52'04.087"W	6.82	
8022.00	88.580	182.430	7290.86	-645.50	625.59	1302.54	40°09'34.615"N	104°52'04.087"W	11.57	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 38N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 38N-10HZ AWP <13115>
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (129 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8068.00†	89.297	182.115	7291.71	-599.52	579.63	1300.72	40°09'34.161"N	104°52'04.110"W	1.70	LANDING POINT
8117.00	90.060	181.780	7291.98	-550.53	530.66	1299.05	40°09'33.677"N	104°52'04.132"W	1.70	
8212.00	88.330	181.580	7293.32	-455.55	435.72	1296.27	40°09'32.738"N	104°52'04.168"W	1.83	
8310.00	88.700	181.590	7295.86	-357.59	337.79	1293.56	40°09'31.771"N	104°52'04.203"W	0.38	
8405.00	88.700	182.200	7298.01	-262.63	242.86	1290.42	40°09'30.833"N	104°52'04.243"W	0.64	
8499.00	88.580	182.260	7300.24	-168.68	148.96	1286.76	40°09'29.905"N	104°52'04.290"W	0.14	
8594.00	88.980	181.950	7302.27	-73.73	54.05	1283.27	40°09'28.967"N	104°52'04.335"W	0.53	
8689.00	90.030	181.050	7303.09	21.26	-40.91	1280.78	40°09'28.028"N	104°52'04.367"W	1.46	
8784.00	90.640	180.070	7302.53	116.26	-135.91	1279.86	40°09'27.090"N	104°52'04.379"W	1.22	
8879.00	89.720	179.250	7302.23	211.23	-230.90	1280.42	40°09'26.151"N	104°52'04.372"W	1.30	
8974.00	89.500	178.590	7302.88	306.18	-325.88	1282.21	40°09'25.212"N	104°52'04.349"W	0.73	
9069.00	89.690	179.080	7303.55	401.11	-420.86	1284.14	40°09'24.274"N	104°52'04.324"W	0.55	
9163.00	88.420	179.810	7305.10	495.07	-514.84	1285.05	40°09'23.345"N	104°52'04.313"W	1.56	
9258.00	88.240	179.900	7307.87	590.01	-609.80	1285.29	40°09'22.407"N	104°52'04.310"W	0.21	
9352.00	88.120	180.330	7310.86	683.96	-703.75	1285.10	40°09'21.478"N	104°52'04.312"W	0.47	
9447.00	88.240	181.360	7313.87	778.91	-798.69	1283.70	40°09'20.540"N	104°52'04.330"W	1.09	
9637.00	87.990	182.480	7320.12	968.77	-988.48	1277.34	40°09'18.664"N	104°52'04.412"W	0.60	
9732.00	88.520	181.880	7323.02	1063.70	-1083.37	1273.73	40°09'17.727"N	104°52'04.459"W	0.84	
9921.00	89.260	181.380	7326.68	1252.65	-1272.25	1268.35	40°09'15.860"N	104°52'04.528"W	0.47	
10110.00	88.550	182.120	7330.29	1441.59	-1461.13	1262.58	40°09'13.994"N	104°52'04.603"W	0.54	
10300.00	90.580	182.710	7331.73	1631.50	-1650.94	1254.58	40°09'12.118"N	104°52'04.706"W	1.11	
10490.00	90.150	181.940	7330.52	1821.44	-1840.78	1246.87	40°09'10.242"N	104°52'04.805"W	0.46	
10679.00	90.240	181.560	7329.88	2010.41	-2029.69	1241.10	40°09'08.375"N	104°52'04.880"W	0.21	
10869.00	90.460	181.860	7328.72	2200.39	-2219.60	1235.43	40°09'06.498"N	104°52'04.953"W	0.20	
11058.00	89.630	182.420	7328.57	2389.34	-2408.47	1228.37	40°09'04.632"N	104°52'05.044"W	0.53	
11153.00	88.670	181.300	7329.98	2484.31	-2503.41	1225.29	40°09'03.694"N	104°52'05.084"W	1.55	
11248.00	87.570	180.490	7333.10	2579.26	-2598.34	1223.81	40°09'02.756"N	104°52'05.103"W	1.44	
11343.00	87.100	180.300	7337.51	2674.15	-2693.24	1223.15	40°09'01.818"N	104°52'05.111"W	0.53	
11438.00	87.960	180.530	7341.61	2769.06	-2788.14	1222.46	40°09'00.880"N	104°52'05.120"W	0.94	
11628.00	88.300	180.510	7347.81	2958.96	-2978.03	1220.74	40°08'59.004"N	104°52'05.143"W	0.18	
11818.00	89.260	179.500	7351.85	3148.89	-3167.99	1220.72	40°08'57.126"N	104°52'05.143"W	0.73	
11912.00	89.750	180.630	7352.66	3242.87	-3261.98	1220.62	40°08'56.198"N	104°52'05.144"W	1.31	
12101.00	89.010	180.330	7354.71	3431.85	-3450.96	1219.03	40°08'54.330"N	104°52'05.165"W	0.42	
12291.00	89.380	181.190	7357.38	3621.83	-3640.92	1216.51	40°08'52.453"N	104°52'05.197"W	0.49	
12482.00	88.210	179.890	7361.40	3812.78	-3831.87	1214.71	40°08'50.566"N	104°52'05.221"W	0.92	
12672.00	89.130	178.630	7365.81	4002.65	-4021.79	1217.17	40°08'48.689"N	104°52'05.189"W	0.82	
12861.00	90.120	177.690	7367.04	4191.43	-4210.69	1223.24	40°08'46.822"N	104°52'05.111"W	0.72	
13059.00	89.660	177.640	7367.42	4389.11	-4408.52	1231.30	40°08'44.867"N	104°52'05.007"W	0.23	LAST BHI MWD+IFR SURVEYS
13115.00	89.660	177.640	7367.75	4445.02	-4464.47	1233.61	40°08'44.314"N	104°52'04.978"W	0.00	PROJECTION TO BIT

Actual Wellpath Report

BUTTERBALL 38N-10HZ AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 38N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 38N-10HZ AWB <13115>
Facility	SEC.10-T2N-R67W		

HOLE & CASING SECTIONS - Ref Wellbore: BUTTERBALL 38N-10HZ AWB <13115> Ref Wellpath: BUTTERBALL 38N-10HZ 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	1159.00	1143.00	16.00	1158.97	0.00	0.00	2.70	0.05
9.625in Casing Surface	16.00	1149.00	1133.00	16.00	1148.97	0.00	0.00	2.58	0.08
8.5in Open Hole	1159.00	13115.00	11956.00	1158.97	7367.75	2.70	0.05	-4464.47	1233.61

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.10-T2N-67W SECTION LINES	4936.00	87.09	-1805.99	1674246.04	14584341.37	40°09'29.293"N	104°52'44.123"W	polygon
BUTTERBALL 38N-10HZ BHL ON PLAT REV-3 (100'FSL & 235'FEL, SEC.10)	7366.00	-4464.44	1224.21	1677281.55	14579796.01	40°08'44.315"N	104°52'05.099"W	point
BUTTERBALL 38N-10HZ LANDBOX	7366.00	0.00	0.00	1676051.42	14584256.90	40°09'28.433"N	104°52'20.863"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: BUTTERBALL 38N-10HZ AWB <13115> Ref Wellpath: BUTTERBALL 38N-10HZ AWP			
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
16.00	1114.00	ISCWSA MWD, Rev. 2 (Standard)	CATHEDRAL MWD SURVEYS 13.5" <124-1114>
1114.00	13059.00	ISCWSA MWD, Rev. 2, axial magnetic correction (Standard) (MagVAR IFR Wattenberg)	BHI MWD+IFR SURVEYS 8 1/2" <1188-13059>
13059.00	13115.00	Blind Drilling (std)	Projection to bit

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 38N-10HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 38N-10HZ AWB <13115>
Facility	SEC.10-T2N-R67W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
124.00	0.700	6.200	124.00	BEGIN MWD SURVEYS
1114.00	0.900	341.300	1113.98	TIE-ONTO MWD SURVEYS
1188.00	0.510	348.150	1187.97	BEGIN BHI MWD+IFR SURVEYS
7616.00	62.865	172.580	7175.58	NIOBRARA
7732.00	67.876	175.877	7222.54	NIOBRARA B
7913.00	77.801	177.379	7277.54	NIOBRARA C
8068.00	89.297	182.115	7291.71	LANDING POINT
13059.00	89.660	177.640	7367.42	LAST BHI MWD+IFR SURVEYS
13115.00	89.660	177.640	7367.75	PROJECTION TO BIT