

KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#26 BUTTERBALL 38N-10HZ (717°FNL & 1489°FEL, SEC.10)

Field: WELD COUNTY (KERR MCGEE) Well: BUTTERBALL 38N-10HZ

Facility: SEC.10-T2N-R67W Wellbore: BUTTERBALL 38N-10HZ PWB

Plot reference wellpath is BUTTERBALL 38N-10HZ (PERMIT REV-1) PWP

True vertical depths are referenced to PERMIT (17KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to PERMIT (17KB) (RKB)	North Reference: True north
PERMIT (17KB) (RKB) to Mean Sea Level: 4937 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#26 BUTTERBALL 38N-10HZ (717°FNL & 1489°FEL, SEC.10): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: robale01 on 9/29/2014

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.10-T2N-R67W			3173592.204	1301060.322	40°09'29.292"N	104°52'44.121"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#26 BUTTERBALL 38N-10HZ (717FNL & 1489FEL SEC.10)	-86.86	1805.84	3175398.525	1300986.116	40°09'28.433"N	104°52'02.863"W
PERMIT (17KB) (RKB) to Mud line (At Slot: SLOT#26 BUTTERBALL 38N-10HZ (717FNL & 1489FEL SEC.10))					4937ft	
Mean Sea Level to Mud line (At Slot: SLOT#26 BUTTERBALL 38N-10HZ (717FNL & 1489FEL SEC.10))					0ft	
PERMIT (17KB) (RKB) to Mean Sea Level					4937ft	

Survey Program

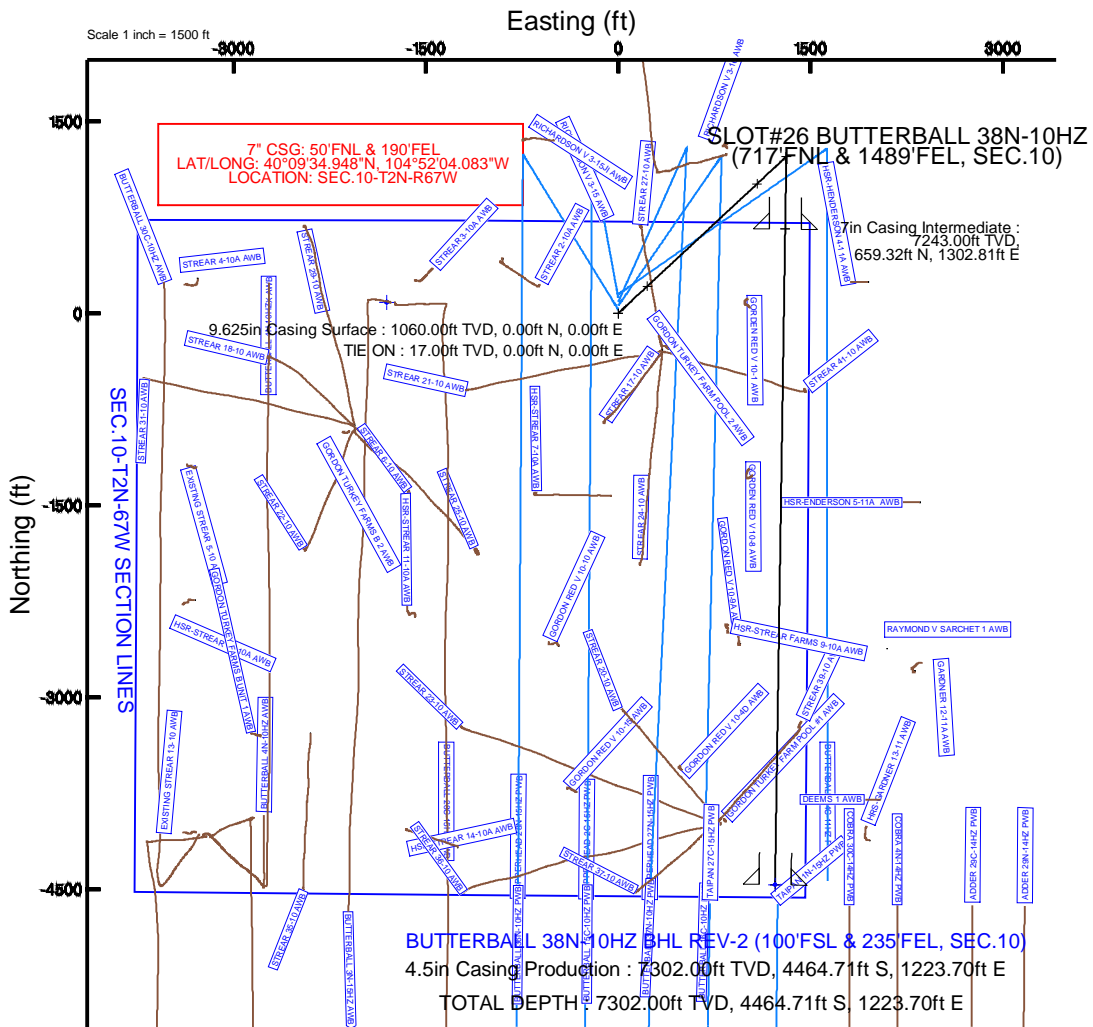
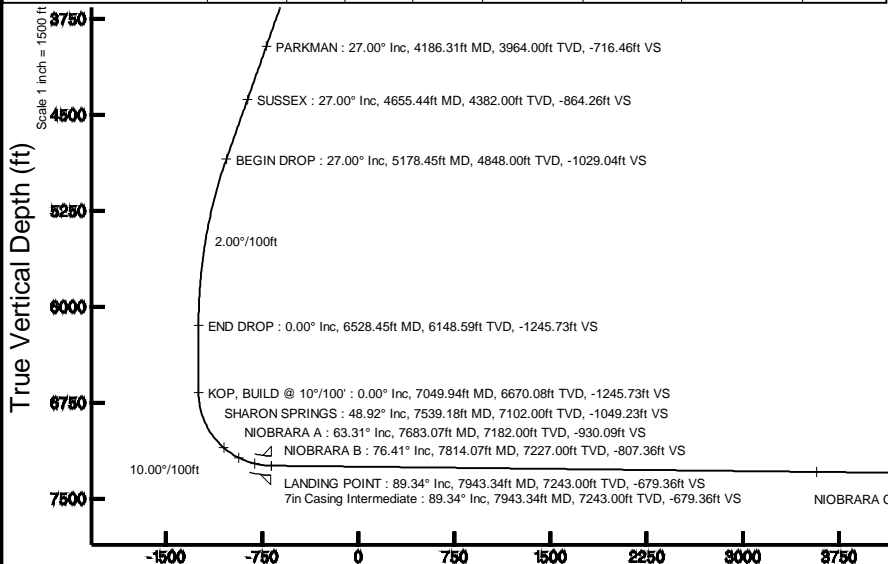
Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
17.00	7943.34	NaviTrak	NaviTrak (MAGCORR,IFR)		BUTTERBALL 38N-10HZ PWB
7943.34	13068.32	NaviTrak	NaviTrak (MAGCORR,IFR)		BUTTERBALL 38N-10HZ PWB

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
SEC.10-T2N-R67W SECTION LINES		0.00	87.09	-1805.99	3173592.05	1301060.42	40°09'29.293"N	104°52'04.123"W	
BUTTERBALL 38N-10HZ BHL ON PLAT REV-1 (50°FSL & 190°FEL, SEC.10)		7302.00	-4514.71	1268.66	3176699.05	1296480.69	40°08'43.818"N	104°52'04.526"W	
BUTTERBALL 38N-10HZ BHL REV-2 (100°FSL & 235°FEL, SEC.10)		13068.32	7302.00	-4464.71	1223.70	3176653.73	1296530.37	40°08'44.312"N	104°52'05.105"W

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
TIE ON	17.00	0.000	46.940	17.00	0.00	0.00	0.00	0.00
BEGIN NUDGE	1250.00	0.000	46.940	1250.00	0.00	0.00	0.00	0.00
END NUDGE	2600.00	27.000	46.940	2550.59	213.19	228.14	2.00	-216.69
BEGIN DROP	5178.45	27.000	46.940	4848.00	1012.43	1083.42	0.00	-1029.04
END DROP	6528.45	0.000	180.885	6148.59	1225.61	1311.55	2.00	-1245.73
KOP, BUILD @ 10°/100'	7049.94	0.000	180.885	6670.08	1225.61	1311.55	0.00	-1245.73
LANDING POINT	7943.34	89.340	180.885	7243.00	659.32	1302.81	10.00	-679.36
TOTAL DEPTH	13068.32	89.340	180.885	7302.00	-4464.71	1223.70	0.00	4445.28



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 38N-10HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 38N-10HZ PWB
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	9/29/2014 at 2:39:13 PM
Convergence at slot	n/a	Database/Source file	WellArchitectDB/BUTTERBALL_38N-10HZ_PWB.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	3175398.53	1300986.12	40°09'28.433"N	104°52'20.863"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	PERMIT (17'KB) (RKB) to Facility Vertical Datum	4937.00ft
Horizontal Reference Pt	Slot	PERMIT (17'KB) (RKB) to Mean Sea Level	4937.00ft
Vertical Reference Pt	PERMIT (17'KB) (RKB)	PERMIT (17'KB) (RKB) to Mud Line at Slot (SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10))	4937.00ft
MD Reference Pt	PERMIT (17'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	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 38N-10HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 38N-10HZ PWB
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (147 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	46.940	0.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
17.00	0.000	46.940	17.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	TIE ON
117.00†	0.000	46.940	117.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
217.00†	0.000	46.940	217.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
317.00†	0.000	46.940	317.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
417.00†	0.000	46.940	417.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
517.00†	0.000	46.940	517.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
613.00†	0.000	46.940	613.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	BASE FOX HILLS
617.00†	0.000	46.940	617.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
717.00†	0.000	46.940	717.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
817.00†	0.000	46.940	817.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
917.00†	0.000	46.940	917.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
1017.00†	0.000	46.940	1017.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
1060.00†	0.000	46.940	1060.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	SURFACE CSG SETTING DEPTH
1117.00†	0.000	46.940	1117.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
1217.00†	0.000	46.940	1217.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	
1250.00	0.000	46.940	1250.00	0.00	0.00	0.00	40°09'28.433"N	104°52'20.863"W	0.00	BEGIN NUDGE
1317.00†	1.340	46.940	1316.99	-0.54	0.53	0.57	40°09'28.438"N	104°52'20.856"W	2.00	
1417.00†	3.340	46.940	1416.91	-3.38	3.32	3.56	40°09'28.466"N	104°52'20.817"W	2.00	
1517.00†	5.340	46.940	1516.61	-8.63	8.49	9.08	40°09'28.517"N	104°52'20.746"W	2.00	
1617.00†	7.340	46.940	1616.00	-16.29	16.03	17.15	40°09'28.591"N	104°52'20.642"W	2.00	
1717.00†	9.340	46.940	1714.93	-26.36	25.93	27.75	40°09'28.689"N	104°52'20.506"W	2.00	
1817.00†	11.340	46.940	1813.31	-38.81	38.19	40.86	40°09'28.810"N	104°52'20.337"W	2.00	
1917.00†	13.340	46.940	1910.99	-53.64	52.78	56.48	40°09'28.955"N	104°52'20.136"W	2.00	
2017.00†	15.340	46.940	2007.87	-70.83	69.69	74.57	40°09'29.122"N	104°52'19.903"W	2.00	
2117.00†	17.340	46.940	2103.83	-90.35	88.89	95.13	40°09'29.311"N	104°52'19.638"W	2.00	
2217.00†	19.340	46.940	2198.74	-112.19	110.38	118.12	40°09'29.524"N	104°52'19.342"W	2.00	
2317.00†	21.340	46.940	2292.50	-136.31	134.11	143.51	40°09'29.758"N	104°52'19.015"W	2.00	
2417.00†	23.340	46.940	2384.99	-162.68	160.06	171.28	40°09'30.015"N	104°52'18.657"W	2.00	
2517.00†	25.340	46.940	2476.10	-191.28	188.20	201.39	40°09'30.293"N	104°52'18.269"W	2.00	
2600.00	27.000	46.940	2550.59	-216.69	213.19	228.14	40°09'30.540"N	104°52'17.925"W	2.00	END NUDGE
2617.00†	27.000	46.940	2565.73	-222.04	218.46	233.78	40°09'30.592"N	104°52'17.852"W	0.00	
2717.00†	27.000	46.940	2654.83	-253.55	249.45	266.95	40°09'30.898"N	104°52'17.425"W	0.00	
2817.00†	27.000	46.940	2743.94	-285.05	280.45	300.12	40°09'31.204"N	104°52'16.998"W	0.00	
2917.00†	27.000	46.940	2833.04	-316.56	311.45	333.29	40°09'31.511"N	104°52'16.570"W	0.00	
3017.00†	27.000	46.940	2922.14	-348.06	342.45	366.46	40°09'31.817"N	104°52'16.143"W	0.00	
3117.00†	27.000	46.940	3011.24	-379.57	373.44	399.63	40°09'32.123"N	104°52'15.716"W	0.00	
3217.00†	27.000	46.940	3100.34	-411.08	404.44	432.80	40°09'32.430"N	104°52'15.289"W	0.00	
3317.00†	27.000	46.940	3189.44	-442.58	435.44	465.97	40°09'32.736"N	104°52'14.862"W	0.00	
3417.00†	27.000	46.940	3278.54	-474.09	466.43	499.14	40°09'33.042"N	104°52'14.434"W	0.00	
3517.00†	27.000	46.940	3367.64	-505.59	497.43	532.31	40°09'33.349"N	104°52'14.007"W	0.00	
3617.00†	27.000	46.940	3456.74	-537.10	528.43	565.48	40°09'33.655"N	104°52'13.580"W	0.00	
3717.00†	27.000	46.940	3545.84	-568.60	559.42	598.65	40°09'33.961"N	104°52'13.153"W	0.00	
3817.00†	27.000	46.940	3634.94	-600.11	590.42	631.82	40°09'34.267"N	104°52'12.725"W	0.00	
3917.00†	27.000	46.940	3724.04	-631.61	621.42	664.99	40°09'34.574"N	104°52'12.298"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 38N-10HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 38N-10HZ PWB
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (147 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4017.00†	27.000	46.940	3813.14	-663.12	652.41	698.16	40°09'34.880"N	104°52'11.871"W	0.00	
4117.00†	27.000	46.940	3902.24	-694.62	683.41	731.33	40°09'35.186"N	104°52'11.444"W	0.00	
4186.31†	27.000	46.940	3964.00	-716.46	704.89	754.32	40°09'35.399"N	104°52'11.148"W	0.00	PARKMAN
4217.00†	27.000	46.940	3991.34	-726.13	714.41	764.50	40°09'35.493"N	104°52'11.016"W	0.00	
4317.00†	27.000	46.940	4080.45	-757.64	745.40	797.67	40°09'35.799"N	104°52'10.589"W	0.00	
4417.00†	27.000	46.940	4169.55	-789.14	776.40	830.84	40°09'36.105"N	104°52'10.162"W	0.00	
4517.00†	27.000	46.940	4258.65	-820.65	807.40	864.01	40°09'36.412"N	104°52'09.735"W	0.00	
4617.00†	27.000	46.940	4347.75	-852.15	838.39	897.18	40°09'36.718"N	104°52'09.307"W	0.00	
4655.44†	27.000	46.940	4382.00	-864.26	850.31	909.93	40°09'36.836"N	104°52'09.143"W	0.00	SUSSEX
4717.00†	27.000	46.940	4436.85	-883.66	869.39	930.35	40°09'37.024"N	104°52'08.880"W	0.00	
4817.00†	27.000	46.940	4525.95	-915.16	900.39	963.52	40°09'37.330"N	104°52'08.453"W	0.00	
4917.00†	27.000	46.940	4615.05	-946.67	931.39	996.69	40°09'37.637"N	104°52'08.026"W	0.00	
5017.00†	27.000	46.940	4704.15	-978.17	962.38	1029.86	40°09'37.943"N	104°52'07.599"W	0.00	
5117.00†	27.000	46.940	4793.25	-1009.68	993.38	1063.03	40°09'38.249"N	104°52'07.171"W	0.00	
5178.45	27.000	46.940	4848.00	-1029.04	1012.43	1083.42	40°09'38.438"N	104°52'06.909"W	0.00	BEGIN DROP
5217.00†	26.229	46.940	4882.47	-1041.02	1024.22	1096.04	40°09'38.554"N	104°52'06.746"W	2.00	
5317.00†	24.229	46.940	4972.92	-1070.60	1053.32	1127.18	40°09'38.842"N	104°52'06.345"W	2.00	
5417.00†	22.229	46.940	5064.81	-1097.97	1080.24	1155.99	40°09'39.108"N	104°52'05.974"W	2.00	
5517.00†	20.229	46.940	5158.02	-1123.10	1104.97	1182.45	40°09'39.352"N	104°52'05.633"W	2.00	
5617.00†	18.229	46.940	5252.44	-1145.95	1127.45	1206.51	40°09'39.574"N	104°52'05.323"W	2.00	
5717.00†	16.229	46.940	5347.95	-1166.51	1147.67	1228.15	40°09'39.774"N	104°52'05.045"W	2.00	
5817.00†	14.229	46.940	5444.43	-1184.73	1165.61	1247.34	40°09'39.951"N	104°52'04.797"W	2.00	
5917.00†	12.229	46.940	5541.77	-1200.61	1181.23	1264.06	40°09'40.106"N	104°52'04.582"W	2.00	
6017.00†	10.229	46.940	5639.85	-1214.13	1194.53	1278.29	40°09'40.237"N	104°52'04.399"W	2.00	
6117.00†	8.229	46.940	5738.55	-1225.26	1205.48	1290.00	40°09'40.345"N	104°52'04.248"W	2.00	
6217.00†	6.229	46.940	5837.75	-1233.99	1214.07	1299.20	40°09'40.430"N	104°52'04.129"W	2.00	
6317.00†	4.229	46.940	5937.33	-1240.31	1220.29	1305.85	40°09'40.492"N	104°52'04.044"W	2.00	
6417.00†	2.229	46.940	6037.17	-1244.22	1224.13	1309.97	40°09'40.530"N	104°52'03.991"W	2.00	
6517.00†	0.229	46.940	6137.14	-1245.71	1225.60	1311.54	40°09'40.544"N	104°52'03.970"W	2.00	
6528.45	0.000	180.885	6148.59	-1245.73	1225.61	1311.55	40°09'40.544"N	104°52'03.970"W	2.00	END DROP
6617.00†	0.000	180.885	6237.14	-1245.73	1225.61	1311.55	40°09'40.544"N	104°52'03.970"W	0.00	
6717.00†	0.000	180.885	6337.14	-1245.73	1225.61	1311.55	40°09'40.544"N	104°52'03.970"W	0.00	
6817.00†	0.000	180.885	6437.14	-1245.73	1225.61	1311.55	40°09'40.544"N	104°52'03.970"W	0.00	
6917.00†	0.000	180.885	6537.14	-1245.73	1225.61	1311.55	40°09'40.544"N	104°52'03.970"W	0.00	
7017.00†	0.000	180.885	6637.14	-1245.73	1225.61	1311.55	40°09'40.544"N	104°52'03.970"W	0.00	
7049.94	0.000	180.885	6670.08	-1245.73	1225.61	1311.55	40°09'40.544"N	104°52'03.970"W	0.00	KOP, BUILD @ 10°/100'
7117.00†	6.706	180.885	6736.99	-1241.80	1221.69	1311.49	40°09'40.505"N	104°52'03.971"W	10.00	
7217.00†	16.706	180.885	6834.78	-1221.54	1201.43	1311.18	40°09'40.305"N	104°52'03.975"W	10.00	
7317.00†	26.706	180.885	6927.57	-1184.60	1164.50	1310.61	40°09'39.940"N	104°52'03.982"W	10.00	
7417.00†	36.706	180.885	7012.54	-1132.11	1112.02	1309.80	40°09'39.422"N	104°52'03.993"W	10.00	
7517.00†	46.706	180.885	7087.10	-1065.67	1045.58	1308.77	40°09'38.765"N	104°52'04.006"W	10.00	
7539.18†	48.925	180.885	7102.00	-1049.23	1029.14	1308.52	40°09'38.603"N	104°52'04.009"W	10.00	SHARON SPRINGS
7617.00†	56.706	180.885	7148.99	-987.28	967.20	1307.56	40°09'37.991"N	104°52'04.022"W	10.00	
7683.07†	63.313	180.885	7182.00	-930.09	910.02	1306.68	40°09'37.425"N	104°52'04.033"W	10.00	NIOBRARA A
7717.00†	66.706	180.885	7196.33	-899.34	879.27	1306.21	40°09'37.122"N	104°52'04.039"W	10.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 38N-10HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 38N-10HZ PWB
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (147 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7814.07†	76.413	180.885	7227.00	-807.36	787.31	1304.79	40°09'36.213"N	104°52'04.058"W	10.00	NIOBRARA B
7817.00†	76.706	180.885	7227.68	-804.51	784.46	1304.74	40°09'36.185"N	104°52'04.058"W	10.00	
7917.00†	86.706	180.885	7242.09	-705.69	685.64	1303.22	40°09'35.208"N	104°52'04.078"W	10.00	
7943.34	89.340	180.885	7243.00	-679.36	659.32	1302.81	40°09'34.948"N	104°52'04.083"W	10.00	LANDING POINT
8017.00†	89.340	180.885	7243.84	-605.71	585.67	1301.67	40°09'34.220"N	104°52'04.098"W	0.00	
8117.00†	89.340	180.885	7245.00	-505.72	485.69	1300.13	40°09'33.232"N	104°52'04.118"W	0.00	
8217.00†	89.340	180.885	7246.15	-405.72	385.71	1298.59	40°09'32.244"N	104°52'04.138"W	0.00	
8317.00†	89.340	180.885	7247.30	-305.73	285.73	1297.04	40°09'31.256"N	104°52'04.158"W	0.00	
8417.00†	89.340	180.885	7248.45	-205.74	185.75	1295.50	40°09'30.268"N	104°52'04.178"W	0.00	
8517.00†	89.340	180.885	7249.60	-105.74	85.77	1293.96	40°09'29.280"N	104°52'04.198"W	0.00	
8617.00†	89.340	180.885	7250.75	-5.75	-14.21	1292.41	40°09'28.292"N	104°52'04.218"W	0.00	
8717.00†	89.340	180.885	7251.90	94.24	-114.20	1290.87	40°09'27.304"N	104°52'04.238"W	0.00	
8817.00†	89.340	180.885	7253.06	194.24	-214.18	1289.32	40°09'26.316"N	104°52'04.257"W	0.00	
8917.00†	89.340	180.885	7254.21	294.23	-314.16	1287.78	40°09'25.328"N	104°52'04.277"W	0.00	
9017.00†	89.340	180.885	7255.36	394.22	-414.14	1286.24	40°09'24.340"N	104°52'04.297"W	0.00	
9117.00†	89.340	180.885	7256.51	494.22	-514.12	1284.69	40°09'23.352"N	104°52'04.317"W	0.00	
9217.00†	89.340	180.885	7257.66	594.21	-614.10	1283.15	40°09'22.364"N	104°52'04.337"W	0.00	
9317.00†	89.340	180.885	7258.81	694.20	-714.09	1281.61	40°09'21.376"N	104°52'04.357"W	0.00	
9417.00†	89.340	180.885	7259.96	794.20	-814.07	1280.06	40°09'20.388"N	104°52'04.377"W	0.00	
9517.00†	89.340	180.885	7261.11	894.19	-914.05	1278.52	40°09'19.400"N	104°52'04.397"W	0.00	
9617.00†	89.340	180.885	7262.27	994.18	-1014.03	1276.98	40°09'18.412"N	104°52'04.417"W	0.00	
9717.00†	89.340	180.885	7263.42	1094.18	-1114.01	1275.43	40°09'17.424"N	104°52'04.437"W	0.00	
9817.00†	89.340	180.885	7264.57	1194.17	-1213.99	1273.89	40°09'16.436"N	104°52'04.457"W	0.00	
9917.00†	89.340	180.885	7265.72	1294.17	-1313.97	1272.34	40°09'15.448"N	104°52'04.477"W	0.00	
10017.00†	89.340	180.885	7266.87	1394.16	-1413.96	1270.80	40°09'14.460"N	104°52'04.497"W	0.00	
10117.00†	89.340	180.885	7268.02	1494.15	-1513.94	1269.26	40°09'13.472"N	104°52'04.517"W	0.00	
10217.00†	89.340	180.885	7269.17	1594.15	-1613.92	1267.71	40°09'12.484"N	104°52'04.537"W	0.00	
10317.00†	89.340	180.885	7270.32	1694.14	-1713.90	1266.17	40°09'11.496"N	104°52'04.557"W	0.00	
10417.00†	89.340	180.885	7271.48	1794.13	-1813.88	1264.63	40°09'10.508"N	104°52'04.577"W	0.00	
10517.00†	89.340	180.885	7272.63	1894.13	-1913.86	1263.08	40°09'09.520"N	104°52'04.597"W	0.00	
10617.00†	89.340	180.885	7273.78	1994.12	-2013.84	1261.54	40°09'08.532"N	104°52'04.617"W	0.00	
10717.00†	89.340	180.885	7274.93	2094.11	-2113.83	1260.00	40°09'07.544"N	104°52'04.636"W	0.00	
10817.00†	89.340	180.885	7276.08	2194.11	-2213.81	1258.45	40°09'06.556"N	104°52'04.656"W	0.00	
10917.00†	89.340	180.885	7277.23	2294.10	-2313.79	1256.91	40°09'05.568"N	104°52'04.676"W	0.00	
11017.00†	89.340	180.885	7278.38	2394.09	-2413.77	1255.36	40°09'04.580"N	104°52'04.696"W	0.00	
11117.00†	89.340	180.885	7279.53	2494.09	-2513.75	1253.82	40°09'03.592"N	104°52'04.716"W	0.00	
11217.00†	89.340	180.885	7280.69	2594.08	-2613.73	1252.28	40°09'02.604"N	104°52'04.736"W	0.00	
11317.00†	89.340	180.885	7281.84	2694.07	-2713.71	1250.73	40°09'01.616"N	104°52'04.756"W	0.00	
11417.00†	89.340	180.885	7282.99	2794.07	-2813.70	1249.19	40°09'00.628"N	104°52'04.776"W	0.00	
11517.00†	89.340	180.885	7284.14	2894.06	-2913.68	1247.65	40°08'59.640"N	104°52'04.796"W	0.00	
11617.00†	89.340	180.885	7285.29	2994.05	-3013.66	1246.10	40°08'58.652"N	104°52'04.816"W	0.00	
11717.00†	89.340	180.885	7286.44	3094.05	-3113.64	1244.56	40°08'57.664"N	104°52'04.836"W	0.00	
11817.00†	89.340	180.885	7287.59	3194.04	-3213.62	1243.02	40°08'56.675"N	104°52'04.856"W	0.00	
11917.00†	89.340	180.885	7288.75	3294.03	-3313.60	1241.47	40°08'55.687"N	104°52'04.876"W	0.00	
12017.00†	89.340	180.885	7289.90	3394.03	-3413.58	1239.93	40°08'54.699"N	104°52'04.896"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 38N-10HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 38N-10HZ PWB
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (147 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12117.00†	89.340	180.885	7291.05	3494.02	-3513.57	1238.38	40°08'53.711"N	104°52'04.916"W	0.00	
12199.73†	89.340	180.885	7292.00	3576.74	-3596.28	1237.11	40°08'52.894"N	104°52'04.932"W	0.00	NIOBRARA C
12217.00†	89.340	180.885	7292.20	3594.01	-3613.55	1236.84	40°08'52.723"N	104°52'04.936"W	0.00	
12317.00†	89.340	180.885	7293.35	3694.01	-3713.53	1235.30	40°08'51.735"N	104°52'04.956"W	0.00	
12417.00†	89.340	180.885	7294.50	3794.00	-3813.51	1233.75	40°08'50.747"N	104°52'04.975"W	0.00	
12517.00†	89.340	180.885	7295.65	3893.99	-3913.49	1232.21	40°08'49.759"N	104°52'04.995"W	0.00	
12617.00†	89.340	180.885	7296.80	3993.99	-4013.47	1230.67	40°08'48.771"N	104°52'05.015"W	0.00	
12717.00†	89.340	180.885	7297.96	4093.98	-4113.45	1229.12	40°08'47.783"N	104°52'05.035"W	0.00	
12817.00†	89.340	180.885	7299.11	4193.97	-4213.44	1227.58	40°08'46.795"N	104°52'05.055"W	0.00	
12917.00†	89.340	180.885	7300.26	4293.97	-4313.42	1226.04	40°08'45.807"N	104°52'05.075"W	0.00	
13017.00†	89.340	180.885	7301.41	4393.96	-4413.40	1224.49	40°08'44.819"N	104°52'05.095"W	0.00	
13068.32	89.340	180.885	7302.00 ¹	4445.28	-4464.71	1223.70	40°08'44.312"N	104°52'05.105"W	0.00	TOTAL DEPTH

HOLE & CASING SECTIONS -									
Ref Wellbore: BUTTERBALL 38N-10HZ PWB					Ref Wellpath: BUTTERBALL 38N-10HZ (PERMIT REV-1) PWP				
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	1060.00	1043.00	17.00	1060.00	0.00	0.00	0.00	0.00
9.625in Casing Surface	17.00	1060.00	1043.00	17.00	1060.00	0.00	0.00	0.00	0.00
8.75in Open Hole	1060.00	7943.34	6883.34	1060.00	7243.00	0.00	0.00	659.32	1302.81
7in Casing Intermediate	17.00	7943.34	7926.34	17.00	7243.00	0.00	0.00	659.32	1302.81
6.125in Open Hole	7943.34	13068.32	5124.98	7243.00	7302.00	659.32	1302.81	-4464.71	1223.70
4.5in Casing Production	17.00	13068.32	13051.32	17.00	7302.00	0.00	0.00	-4464.71	1223.70

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 38N-10HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 38N-10HZ PWB
Facility	SEC.10-T2N-R67W		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.10-T2N-67W SECTION LINES		0.00	87.09	-1805.99	3173592.05	1301060.42	40°09'29.293"N	104°52'44.123"W	polygon
BUTTERBALL 38N-10HZ BHL ON PLAT REV-1 (50'FSL & 190'FEL, SEC.10)		7302.00	-4514.71	1268.66	3176699.05	1296480.69	40°08'43.818"N	104°52'04.526"W	point
1) BUTTERBALL 38N-10HZ BHL REV-2 (100'FSL & 235'FEL, SEC.10)	13068.32	7302.00	-4464.71	1223.70	3176653.73	1296530.37	40°08'44.312"N	104°52'05.105"W	point

SURVEY PROGRAM - Ref Wellbore: BUTTERBALL 38N-10HZ PWB					Ref Wellpath: BUTTERBALL 38N-10HZ (PERMIT REV-1) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model			Log Name/Comment		Wellbore		
17.00	7943.34	NaviTrak (MAGCORR,IFR)					BUTTERBALL 38N-10HZ PWB		
7943.34	13068.32	NaviTrak (MAGCORR,IFR)					BUTTERBALL 38N-10HZ PWB		

Planned Wellpath Report

BUTTERBALL 38N-10HZ (PERMIT REV-1) PWP

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REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#26 BUTTERBALL 38N-10HZ (717'FNL & 1489'FEL, SEC.10)	
Area	COLORADO	Well	BUTTERBALL 38N-10HZ	
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BUTTERBALL 38N-10HZ PWB	
Facility	SEC.10-T2N-R67W			

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
613.00	0.000	46.940	613.00	BASE FOX HILLS
1060.00	0.000	46.940	1060.00	SURFACE CSG SETTING DEPTH
4186.31	27.000	46.940	3964.00	PARKMAN
4655.44	27.000	46.940	4382.00	SUSSEX
7539.18	48.925	180.885	7102.00	SHARON SPRINGS
7683.07	63.313	180.885	7182.00	NIOBRARA A
7814.07	76.413	180.885	7227.00	NIOBRARA B
12199.73	89.340	180.885	7292.00	NIOBRARA C

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
17.00	0.000	46.940	17.00	TIE ON
1250.00	0.000	46.940	1250.00	BEGIN NUDGE
2600.00	27.000	46.940	2550.59	END NUDGE
5178.45	27.000	46.940	4848.00	BEGIN DROP
6528.45	0.000	180.885	6148.59	END DROP
7049.94	0.000	180.885	6670.08	KOP, BUILD @ 10°/100'
7943.34	89.340	180.885	7243.00	LANDING POINT
13068.32	89.340	180.885	7302.00	TOTAL DEPTH