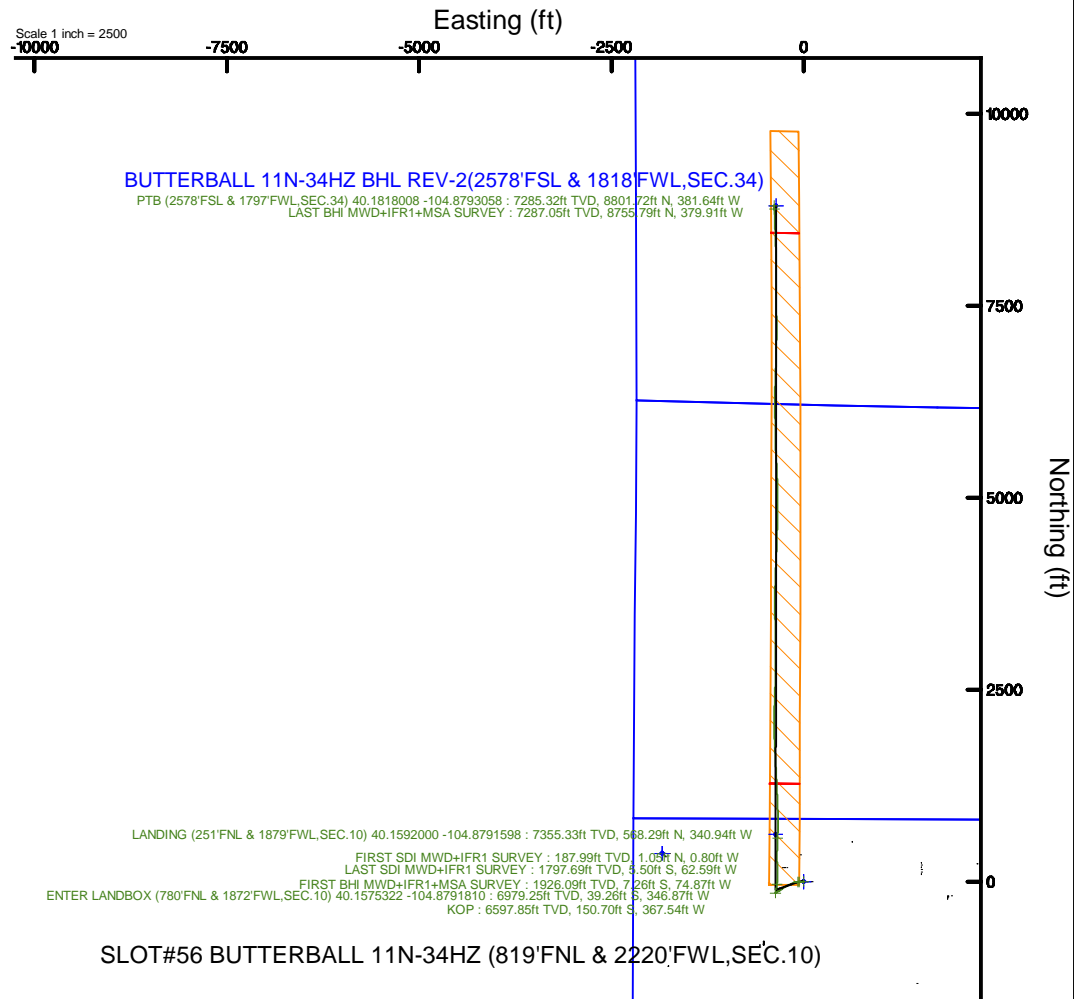
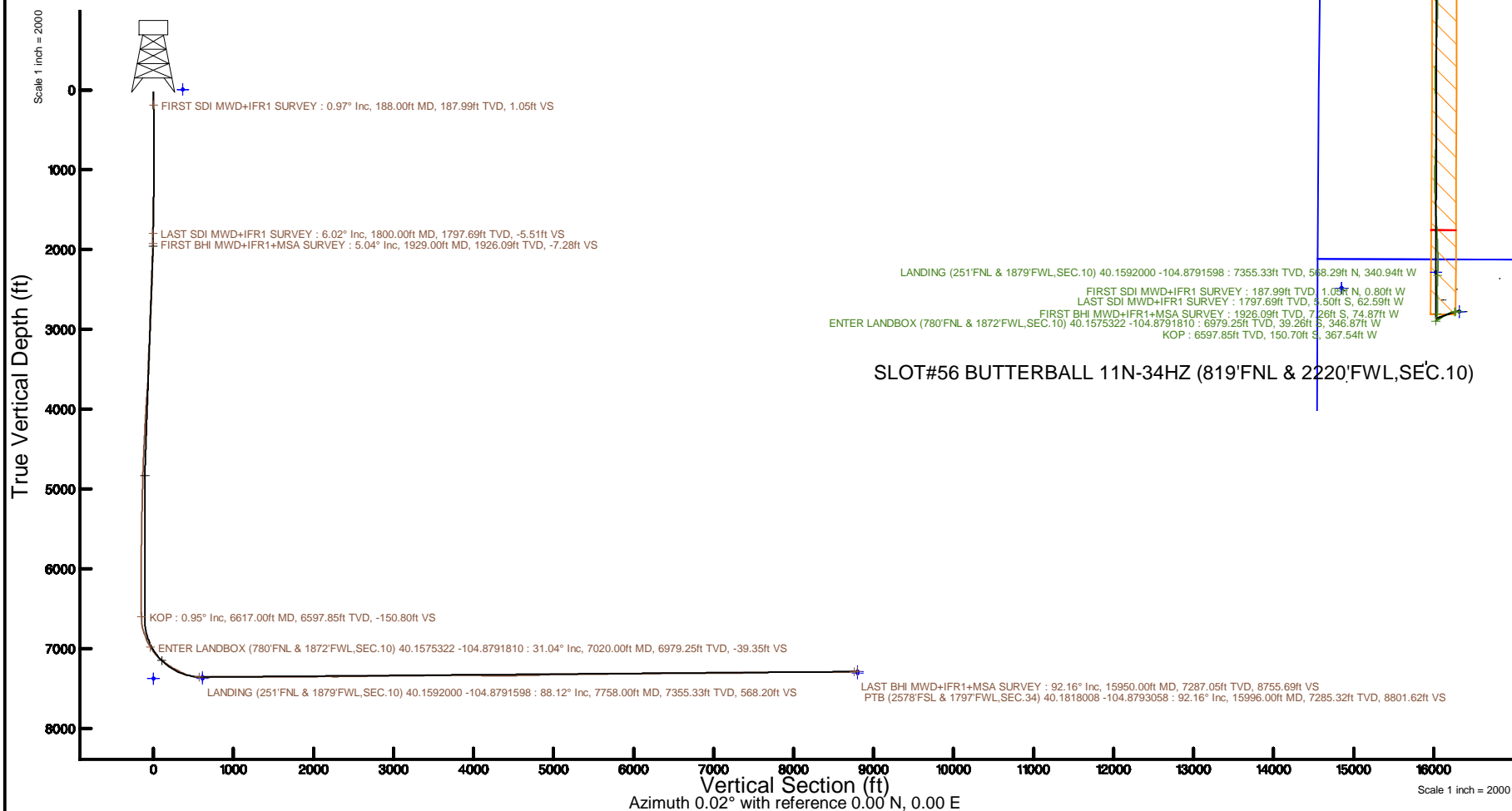


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#56 BUTTERBALL 11N-34HZ (819'FNL & 2220'FWL,SEC.10)
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: BUTTERBALL 11N-34HZ
 Facility: SEC.10-T2N-R67W Wellbore: BUTTERBALL 11N-34HZ PWB

Plot reference wellpath is BUTTERBALL 11N-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#56 BUTTERBALL 11N-34HZ (819'FNL & 2220'FWL,SEC.10)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2017-06-28
	Database: WA_DEN_Anadarko_Defn



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#56 BUTTERBALL 11N-34HZ (819'FNL & 2220'FWL,SEC.10)
Area	COLORADO	Well	BUTTERBALL 11N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 11N-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	6/28/2017 at 1:27 PM
Convergence at slot	0.08° East	Database/Source file	WA_DEN_Anadarko_Defn/BUTTERBALL_11N-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	-180.93	274.63	1674520.95	14584160.78	40°09'27.504"N	104°52'40.584"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#56 BUTTERBALL 11N-34HZ (819'FNL & 2220'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	0.02°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#56 BUTTERBALL 11N-34HZ (819'FNL & 2220'FWL, SEC.10)
Area	COLORADO	Well	BUTTERBALL 11N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 11N-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	322.760	0.00	0.00	0.00	0.00	1674520.95	14584160.78	40°09'27.504"N	104°52'40.584"W	0.00	
32.00	0.000	322.760	32.00	0.00	0.00	0.00	1674520.95	14584160.78	40°09'27.504"N	104°52'40.584"W	0.00	
188.00	0.970	322.760	187.99	1.05	1.05	-0.80	1674520.15	14584161.83	40°09'27.514"N	104°52'40.594"W	0.62	FIRST SDI MWD+IFR1 SURVEY
257.00	1.190	331.780	256.98	2.15	2.15	-1.49	1674519.46	14584162.92	40°09'27.525"N	104°52'40.603"W	0.40	
346.00	1.220	332.450	345.96	3.80	3.80	-2.37	1674518.58	14584164.58	40°09'27.542"N	104°52'40.614"W	0.04	
434.00	0.710	340.520	433.95	5.15	5.15	-2.98	1674517.97	14584165.92	40°09'27.555"N	104°52'40.622"W	0.60	
521.00	1.020	356.950	520.94	6.43	6.43	-3.20	1674517.74	14584167.20	40°09'27.568"N	104°52'40.625"W	0.45	
608.00	0.120	292.970	607.93	7.24	7.24	-3.33	1674517.62	14584168.01	40°09'27.576"N	104°52'40.627"W	1.12	
696.00	0.480	246.500	695.93	7.12	7.13	-3.75	1674517.20	14584167.90	40°09'27.574"N	104°52'40.632"W	0.46	
785.00	0.670	262.760	784.93	6.91	6.91	-4.61	1674516.34	14584167.68	40°09'27.572"N	104°52'40.643"W	0.28	
874.00	1.210	271.160	873.92	6.86	6.86	-6.06	1674514.88	14584167.63	40°09'27.572"N	104°52'40.662"W	0.62	
960.00	0.930	285.610	959.90	7.07	7.07	-7.64	1674513.30	14584167.84	40°09'27.574"N	104°52'40.682"W	0.45	
1047.00	1.280	249.410	1046.88	6.92	6.92	-9.23	1674511.71	14584167.68	40°09'27.572"N	104°52'40.703"W	0.88	
1134.00	2.800	249.080	1133.83	5.82	5.82	-12.13	1674508.82	14584166.58	40°09'27.562"N	104°52'40.740"W	1.75	
1222.00	3.270	248.240	1221.70	4.12	4.12	-16.47	1674504.49	14584164.88	40°09'27.545"N	104°52'40.796"W	0.54	
1309.00	3.200	252.870	1308.57	2.48	2.49	-21.09	1674499.87	14584163.24	40°09'27.529"N	104°52'40.856"W	0.31	
1396.00	4.100	254.610	1395.39	0.94	0.95	-26.41	1674494.55	14584161.69	40°09'27.513"N	104°52'40.924"W	1.04	
1484.00	4.900	257.790	1483.12	-0.69	-0.68	-33.12	1674487.85	14584160.05	40°09'27.497"N	104°52'41.011"W	0.95	
1573.00	5.080	257.070	1571.78	-2.38	-2.37	-40.67	1674480.30	14584158.35	40°09'27.481"N	104°52'41.108"W	0.21	
1660.00	5.660	261.460	1658.40	-3.88	-3.87	-48.67	1674472.31	14584156.84	40°09'27.466"N	104°52'41.211"W	0.82	
1749.00	5.700	263.880	1746.96	-5.01	-4.99	-57.41	1674463.58	14584155.71	40°09'27.455"N	104°52'41.323"W	0.27	
1800.00	6.020	264.960	1797.69	-5.51	-5.50	-62.59	1674458.40	14584155.20	40°09'27.450"N	104°52'41.390"W	0.66	LAST SDI MWD+IFR1 SURVEY
1929.00	5.040	258.060	1926.09	-7.28	-7.26	-74.87	1674446.12	14584153.42	40°09'27.432"N	104°52'41.548"W	0.92	FIRST BHI MWD+IFR1+MSA SURVEY
2023.00	6.480	263.650	2019.62	-8.73	-8.70	-84.18	1674436.82	14584151.96	40°09'27.418"N	104°52'41.668"W	1.64	
2117.00	6.290	259.750	2113.03	-10.23	-10.21	-94.52	1674426.49	14584150.45	40°09'27.403"N	104°52'41.801"W	0.50	
2211.00	6.050	256.510	2206.49	-12.31	-12.28	-104.41	1674416.61	14584148.36	40°09'27.383"N	104°52'41.929"W	0.45	
2305.00	7.380	251.320	2299.84	-15.40	-15.37	-114.94	1674406.08	14584145.26	40°09'27.352"N	104°52'42.064"W	1.55	
2399.00	7.200	251.540	2393.08	-19.20	-19.17	-126.25	1674394.78	14584141.45	40°09'27.315"N	104°52'42.210"W	0.19	
2492.00	6.870	248.930	2485.38	-23.05	-23.01	-136.97	1674384.07	14584137.59	40°09'27.277"N	104°52'42.348"W	0.49	
2586.00	6.580	249.150	2578.74	-26.99	-26.95	-147.25	1674373.80	14584133.64	40°09'27.238"N	104°52'42.480"W	0.31	
2679.00	6.040	248.890	2671.17	-30.65	-30.61	-156.79	1674364.27	14584129.97	40°09'27.202"N	104°52'42.603"W	0.58	
2773.00	5.880	248.170	2764.66	-34.22	-34.18	-165.87	1674355.19	14584126.38	40°09'27.166"N	104°52'42.720"W	0.19	
2867.00	5.620	247.140	2858.19	-37.81	-37.76	-174.58	1674346.49	14584122.80	40°09'27.131"N	104°52'42.833"W	0.30	
2961.00	5.370	246.180	2951.76	-41.37	-41.32	-182.85	1674338.23	14584119.22	40°09'27.096"N	104°52'42.939"W	0.28	
3054.00	5.760	243.040	3044.32	-45.25	-45.20	-190.99	1674330.10	14584115.34	40°09'27.057"N	104°52'43.044"W	0.53	
3148.00	6.840	243.190	3137.75	-49.91	-49.86	-200.19	1674320.91	14584110.66	40°09'27.011"N	104°52'43.162"W	1.15	
3242.00	6.160	242.800	3231.15	-54.75	-54.69	-209.67	1674311.44	14584105.82	40°09'26.964"N	104°52'43.284"W	0.72	
3336.00	5.280	241.780	3324.68	-59.10	-59.04	-217.97	1674303.15	14584101.46	40°09'26.921"N	104°52'43.391"W	0.94	
3430.00	3.910	248.220	3418.37	-62.33	-62.28	-224.76	1674296.37	14584098.22	40°09'26.889"N	104°52'43.479"W	1.56	
3524.00	5.790	254.750	3512.03	-64.77	-64.71	-232.31	1674288.83	14584095.77	40°09'26.864"N	104°52'43.576"W	2.08	
3617.00	7.360	249.570	3604.42	-68.09	-68.03	-242.42	1674278.73	14584092.45	40°09'26.832"N	104°52'43.706"W	1.80	
3711.00	7.630	235.700	3697.63	-73.71	-73.64	-253.22	1674267.94	14584086.82	40°09'26.776"N	104°52'43.845"W	1.94	
3805.00	6.790	233.690	3790.88	-80.52	-80.45	-262.85	1674258.32	14584080.00	40°09'26.709"N	104°52'43.969"W	0.93	
3898.00	6.390	234.640	3883.27	-86.77	-86.70	-271.50	1674249.68	14584073.74	40°09'26.647"N	104°52'44.081"W	0.45	
4015.00	5.680	233.650	3999.62	-93.98	-93.90	-281.47	1674239.72	14584066.53	40°09'26.576"N	104°52'44.209"W	0.61	

REFERENCE WELLPATH IDENTIFICATION					
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)			Slot	SLOT#56 BUTTERBALL 11N-34HZ (819'FNL & 2220'FWL,SEC.10)
Area	COLORADO			Well	BUTTERBALL 11N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)			Wellbore	BUTTERBALL 11N-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	
4109.00		5.620	232.080	4093.16	-99.56	-99.49	288.85	1674232.36	14584060.93	40°09'26.521"N	104°52'44.304"W	0.18	
4202.00		5.300	232.700	4185.74	-104.97	-104.89	295.86	1674225.36	14584055.53	40°09'26.467"N	104°52'44.394"W	0.35	
4296.00		4.300	239.360	4279.41	-109.40	-109.32	302.34	1674218.88	14584051.09	40°09'26.424"N	104°52'44.478"W	1.22	
4390.00		5.710	238.460	4373.05	-113.64	-113.56	309.36	1674211.87	14584046.84	40°09'26.382"N	104°52'44.568"W	1.50	
4483.00		5.350	238.430	4465.62	-118.33	-118.25	317.00	1674204.24	14584042.14	40°09'26.335"N	104°52'44.667"W	0.39	
4576.00		4.600	237.620	4558.26	-122.60	-122.52	323.84	1674197.41	14584037.87	40°09'26.293"N	104°52'44.755"W	0.81	
4670.00		4.320	240.030	4651.98	-126.39	-126.30	330.09	1674191.17	14584034.07	40°09'26.256"N	104°52'44.835"W	0.36	
4764.00		3.780	238.390	4745.74	-129.78	-129.70	335.80	1674185.47	14584030.67	40°09'26.222"N	104°52'44.909"W	0.59	
4857.00		3.500	238.550	4838.56	-132.87	-132.78	340.83	1674180.44	14584027.58	40°09'26.192"N	104°52'44.974"W	0.30	
4951.00		3.140	237.010	4932.40	-135.77	-135.68	345.44	1674175.84	14584024.68	40°09'26.163"N	104°52'45.033"W	0.39	
5045.00		3.050	240.150	5026.26	-138.42	-138.33	349.77	1674171.52	14584022.03	40°09'26.137"N	104°52'45.089"W	0.20	
5138.00		2.670	236.090	5119.15	-140.86	-140.77	353.71	1674167.58	14584019.58	40°09'26.113"N	104°52'45.140"W	0.46	
5232.00		2.100	233.430	5213.06	-143.11	-143.02	356.91	1674164.38	14584017.33	40°09'26.091"N	104°52'45.181"W	0.62	
5326.00		1.780	235.170	5307.01	-144.97	-144.88	359.49	1674161.81	14584015.47	40°09'26.072"N	104°52'45.214"W	0.35	
5419.00		1.640	230.130	5399.97	-146.65	-146.55	361.70	1674159.60	14584013.79	40°09'26.056"N	104°52'45.242"W	0.22	
5513.00		1.240	224.590	5493.94	-148.24	-148.14	363.45	1674157.86	14584012.20	40°09'26.040"N	104°52'45.265"W	0.45	
5607.00		1.050	229.650	5587.92	-149.52	-149.42	364.82	1674156.49	14584010.92	40°09'26.027"N	104°52'45.283"W	0.23	
5701.00		0.980	218.040	5681.91	-150.71	-150.61	365.97	1674155.34	14584009.72	40°09'26.016"N	104°52'45.297"W	0.23	
5795.00		0.960	210.290	5775.89	-152.02	-151.93	366.86	1674154.45	14584008.41	40°09'26.003"N	104°52'45.309"W	0.14	
5888.00		0.870	216.340	5868.88	-153.26	-153.17	367.67	1674153.64	14584007.17	40°09'25.990"N	104°52'45.319"W	0.14	
5982.00		1.080	253.630	5962.87	-154.09	-153.99	368.94	1674152.37	14584006.34	40°09'25.982"N	104°52'45.336"W	0.70	
6075.00		0.530	16.890	6055.86	-153.92	-153.83	369.66	1674151.65	14584006.51	40°09'25.984"N	104°52'45.345"W	1.55	
6169.00		0.470	27.430	6149.86	-153.17	-153.07	369.36	1674151.96	14584007.26	40°09'25.991"N	104°52'45.341"W	0.12	
6263.00		0.350	30.670	6243.86	-152.58	-152.48	369.03	1674152.28	14584007.85	40°09'25.997"N	104°52'45.337"W	0.13	
6356.00		0.370	51.080	6336.85	-152.14	-152.05	368.65	1674152.66	14584008.29	40°09'26.001"N	104°52'45.332"W	0.14	
6450.00		0.360	48.610	6430.85	-151.76	-151.66	368.20	1674153.11	14584008.67	40°09'26.005"N	104°52'45.326"W	0.02	
6544.00		0.260	63.680	6524.85	-151.47	-151.37	367.78	1674153.53	14584008.96	40°09'26.008"N	104°52'45.321"W	0.14	
6617.00†		0.949	9.284	6597.85	-150.80	-150.70	367.54	1674153.77	14584009.63	40°09'26.015"N	104°52'45.318"W	1.13	KOP
6638.00		1.180	6.330	6618.84	-150.41	-150.32	367.49	1674153.82	14584010.02	40°09'26.019"N	104°52'45.317"W	1.13	
6732.00		10.390	20.200	6712.27	-141.47	-141.38	364.45	1674156.85	14584018.96	40°09'26.107"N	104°52'45.278"W	9.84	
6825.00		19.030	18.700	6802.13	-119.20	-119.10	356.67	1674164.59	14584041.23	40°09'26.327"N	104°52'45.178"W	9.30	
6918.00		23.890	6.140	6888.70	-86.07	-85.98	349.79	1674171.42	14584074.35	40°09'26.654"N	104°52'45.089"W	7.17	
7011.00		30.190	1.840	6971.51	-43.93	-43.84	347.02	1674174.13	14584116.48	40°09'27.071"N	104°52'45.053"W	7.09	
7020.00†		31.043	1.906	6979.25	-39.35	-39.26	346.87	1674174.27	14584121.06	40°09'27.116"N	104°52'45.051"W	9.49	ENTER LANDBOX (780'FNL & 1872'FWL,SEC.10) 40.1575322 -104.8791810
7104.00		39.010	2.400	7047.98	8.79	8.88	345.04	1674176.04	14584169.18	40°09'27.592"N	104°52'45.028"W	9.49	
7197.00		46.720	0.940	7116.10	71.98	72.07	343.26	1674177.73	14584232.35	40°09'28.216"N	104°52'45.005"W	8.36	
7291.00		53.730	358.930	7176.20	144.17	144.26	343.41	1674177.49	14584304.51	40°09'28.930"N	104°52'45.007"W	7.64	
7384.00		58.800	358.370	7227.83	221.46	221.55	345.24	1674175.55	14584381.77	40°09'29.693"N	104°52'45.030"W	5.47	
7477.00		61.810	359.030	7273.90	302.22	302.31	347.06	1674173.61	14584462.49	40°09'30.491"N	104°52'45.054"W	3.29	
7571.00		66.760	1.550	7314.68	386.87	386.96	346.60	1674173.97	14584547.11	40°09'31.328"N	104°52'45.048"W	5.79	
7664.00		77.240	1.860	7343.38	475.16	475.25	343.96	1674176.48	14584635.36	40°09'32.200"N	104°52'45.014"W	11.27	
7758.00		88.120	1.860	7355.33	568.20	568.29	340.94	1674179.37	14584728.38	40°09'33.120"N	104°52'44.975"W	11.57	LANDING (251'FNL & 1879'FWL,SEC.10) 40.1592000 -104.8791598
7852.00		90.920	3.280	7356.12	662.10	662.18	336.73	1674183.45	14584822.23	40°09'34.048"N	104°52'44.921"W	3.34	
7946.00		91.230	359.590	7354.36	756.03	756.12	334.37	1674185.68	14584916.14	40°09'34.976"N	104°52'44.891"W	3.94	
8040.00		89.720	358.680	7353.58	850.02	850.10	335.79	1674184.13	14585010.08	40°09'35.905"N	104°52'44.909"W	1.88	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#56 BUTTERBALL 11N-34HZ (819'FNL & 2220'FWL,SEC.10)
Area	COLORADO	Well	BUTTERBALL 11N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 11N-34HZ AWB
Facility	SEC.10-T2N-R67W		

WELLPATH DATA (176 stations)												
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
8134.00	90.680	358.430	7353.25	943.98	944.07	-338.16	1674181.63	14585104.01	40°09'36.833"N	104°52'44.939"W	1.06	
8228.00	89.780	357.270	7352.87	1037.91	1038.00	-341.69	1674177.98	14585197.90	40°09'37.762"N	104°52'44.985"W	1.56	
8321.00	90.740	357.690	7352.45	1130.82	1130.91	-345.78	1674173.76	14585290.76	40°09'38.680"N	104°52'45.038"W	1.13	
8415.00	91.140	357.650	7350.91	1224.73	1224.82	-349.60	1674169.82	14585384.63	40°09'39.608"N	104°52'45.087"W	0.43	
8510.00	89.660	357.000	7350.25	1319.62	1319.71	-354.03	1674165.25	14585479.47	40°09'40.545"N	104°52'45.144"W	1.70	
8603.00	90.800	357.690	7349.87	1412.51	1412.61	-358.34	1674160.82	14585572.33	40°09'41.463"N	104°52'45.199"W	1.43	
8696.00	89.820	356.430	7349.37	1505.39	1505.48	-363.11	1674155.92	14585665.16	40°09'42.381"N	104°52'45.261"W	1.72	
8790.00	90.590	357.660	7349.03	1599.26	1599.35	-367.95	1674150.95	14585758.99	40°09'43.309"N	104°52'45.323"W	1.54	
8884.00	89.450	357.530	7349.00	1693.17	1693.27	-371.90	1674146.88	14585852.86	40°09'44.237"N	104°52'45.374"W	1.22	
8977.00	89.510	357.270	7349.84	1786.07	1786.17	-376.12	1674142.53	14585945.71	40°09'45.155"N	104°52'45.428"W	0.29	
9070.00	89.910	357.290	7350.32	1878.96	1879.06	-380.53	1674138.00	14586038.57	40°09'46.073"N	104°52'45.485"W	0.43	
9164.00	90.740	1.310	7349.78	1972.93	1973.03	-381.68	1674136.72	14586132.50	40°09'47.002"N	104°52'45.500"W	4.37	
9255.00	90.680	0.340	7348.65	2063.92	2064.02	-380.37	1674137.90	14586223.45	40°09'47.901"N	104°52'45.483"W	1.07	
9347.00	89.880	359.450	7348.20	2155.91	2156.01	-380.54	1674137.61	14586315.41	40°09'48.810"N	104°52'45.485"W	1.30	
9439.00	89.230	0.820	7348.92	2247.91	2248.01	-380.32	1674137.70	14586407.36	40°09'49.719"N	104°52'45.483"W	1.65	
9531.00	91.630	2.400	7348.23	2339.86	2339.96	-377.74	1674140.16	14586499.28	40°09'50.628"N	104°52'45.449"W	3.12	
9622.00	92.490	2.310	7344.96	2430.73	2430.82	-374.00	1674143.77	14586590.11	40°09'51.525"N	104°52'45.401"W	0.95	
9714.00	90.150	0.990	7342.84	2522.66	2522.75	-371.35	1674146.29	14586682.01	40°09'52.434"N	104°52'45.367"W	2.92	
9807.00	90.340	0.790	7342.44	2615.64	2615.74	-369.91	1674147.60	14586774.96	40°09'53.353"N	104°52'45.349"W	0.30	
9898.00	90.620	0.420	7341.68	2706.64	2706.73	-368.95	1674148.44	14586865.92	40°09'54.252"N	104°52'45.336"W	0.51	
9989.00	90.430	359.610	7340.84	2797.63	2797.73	-368.92	1674148.34	14586956.88	40°09'55.151"N	104°52'45.336"W	0.91	
10080.00	90.120	359.840	7340.41	2888.63	2888.73	-369.36	1674147.78	14587047.84	40°09'56.050"N	104°52'45.342"W	0.42	
10174.00	89.850	0.570	7340.43	2982.63	2982.72	-369.02	1674147.98	14587141.80	40°09'56.979"N	104°52'45.337"W	0.83	
10268.00	90.120	359.940	7340.46	3076.63	3076.72	-368.60	1674148.27	14587235.76	40°09'57.908"N	104°52'45.332"W	0.73	
10362.00	90.430	0.030	7340.01	3170.62	3170.72	-368.63	1674148.12	14587329.72	40°09'58.837"N	104°52'45.332"W	0.34	
10455.00	91.540	359.870	7338.41	3263.61	3263.71	-368.71	1674147.91	14587422.67	40°09'59.756"N	104°52'45.333"W	1.21	
10548.00	91.320	358.420	7336.09	3356.57	3356.66	-370.10	1674146.40	14587515.59	40°10'00.675"N	104°52'45.351"W	1.58	
10642.00	90.370	359.800	7334.70	3450.54	3450.64	-371.56	1674144.81	14587609.52	40°10'01.603"N	104°52'45.370"W	1.78	
10735.00	90.650	359.130	7333.87	3543.53	3543.63	-372.43	1674143.81	14587702.48	40°10'02.522"N	104°52'45.381"W	0.78	
10829.00	91.360	358.580	7332.22	3637.50	3637.60	-374.30	1674141.81	14587796.40	40°10'03.451"N	104°52'45.405"W	0.96	
10923.00	90.090	1.640	7331.03	3731.48	3731.58	-374.12	1674141.86	14587890.34	40°10'04.380"N	104°52'45.403"W	3.52	
11016.00	89.880	1.190	7331.06	3824.45	3824.55	-371.83	1674144.02	14587983.28	40°10'05.298"N	104°52'45.374"W	0.53	
11109.00	89.690	1.550	7331.41	3917.42	3917.52	-369.60	1674146.12	14588076.22	40°10'06.217"N	104°52'45.345"W	0.44	
11203.00	88.460	2.750	7332.92	4011.34	4011.44	-366.08	1674149.51	14588170.10	40°10'07.145"N	104°52'45.300"W	1.83	
11296.00	88.460	2.190	7335.42	4104.22	4104.32	-362.07	1674153.39	14588262.95	40°10'08.063"N	104°52'45.248"W	0.60	
11388.00	88.800	2.120	7337.62	4196.13	4196.23	-358.61	1674156.72	14588354.83	40°10'08.971"N	104°52'45.203"W	0.38	
11482.00	90.060	2.710	7338.56	4290.04	4290.14	-354.65	1674160.55	14588448.70	40°10'09.899"N	104°52'45.152"W	1.48	
11576.00	90.460	1.580	7338.13	4383.97	4384.07	-351.13	1674163.94	14588542.60	40°10'10.828"N	104°52'45.107"W	1.28	
11671.00	91.170	1.600	7336.78	4478.93	4479.02	-348.50	1674166.45	14588637.52	40°10'11.766"N	104°52'45.073"W	0.75	
11764.00	90.800	1.210	7335.18	4571.89	4571.98	-346.22	1674168.60	14588730.45	40°10'12.684"N	104°52'45.044"W	0.58	
11857.00	91.080	1.360	7333.66	4664.85	4664.94	-344.13	1674170.55	14588823.38	40°10'13.603"N	104°52'45.017"W	0.34	
11951.00	92.000	0.810	7331.13	4758.80	4758.89	-342.35	1674172.20	14588917.29	40°10'14.532"N	104°52'44.994"W	1.14	
12045.00	92.530	0.420	7327.41	4852.72	4852.81	-341.35	1674173.08	14589011.17	40°10'15.460"N	104°52'44.981"W	0.70	
12139.00	93.540	359.620	7322.44	4946.59	4946.68	-341.31	1674172.99	14589105.00	40°10'16.387"N	104°52'44.981"W	1.37	
12233.00	90.340	359.160	7319.26	5040.52	5040.60	-342.31	1674171.86	14589198.89	40°10'17.315"N	104°52'44.994"W	3.44	

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)		Slot	SLOT#56 BUTTERBALL 11N-34HZ (819'FNL & 2220'FWL,SEC.10)
Area	COLORADO		Well	BUTTERBALL 11N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)		Wellbore	BUTTERBALL 11N-34HZ AWB
Facility	SEC.10-T2N-R67W			

WELLPATH DATA (176 stations)												
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
12326.00	91.540	359.440	7317.73	5133.49	5133.58	-343.45	1674170.59	14589291.83	40°10'18.234"N	104°52'45.008"W	1.32	
12420.00	89.940	358.020	7316.52	5227.46	5227.55	-345.53	1674168.38	14589385.75	40°10'19.163"N	104°52'45.035"W	2.28	
12515.00	89.820	357.750	7316.72	5322.39	5322.48	-349.04	1674164.75	14589480.64	40°10'20.101"N	104°52'45.080"W	0.31	
12609.00	90.120	357.080	7316.76	5416.29	5416.39	-353.28	1674160.38	14589574.50	40°10'21.029"N	104°52'45.135"W	0.78	
12702.00	90.030	356.720	7316.64	5509.16	5509.25	-358.31	1674155.23	14589667.32	40°10'21.947"N	104°52'45.200"W	0.40	
12796.00	90.250	358.360	7316.41	5603.06	5603.16	-362.34	1674151.06	14589761.19	40°10'22.875"N	104°52'45.252"W	1.76	
12890.00	91.320	358.080	7315.13	5697.01	5697.10	-365.26	1674148.02	14589855.09	40°10'23.803"N	104°52'45.289"W	1.18	
12983.00	90.490	0.050	7313.66	5789.98	5790.07	-366.78	1674146.37	14589948.02	40°10'24.722"N	104°52'45.309"W	2.30	
13075.00	90.460	359.290	7312.89	5881.97	5882.07	-367.31	1674145.72	14590039.98	40°10'25.631"N	104°52'45.316"W	0.83	
13169.00	90.250	358.550	7312.31	5975.95	5976.05	-369.08	1674143.82	14590133.92	40°10'26.560"N	104°52'45.339"W	0.82	
13262.00	90.400	357.110	7311.78	6068.88	6068.98	-372.60	1674140.17	14590226.81	40°10'27.478"N	104°52'45.384"W	1.56	
13356.00	90.220	358.890	7311.28	6162.82	6162.92	-375.88	1674136.76	14590320.70	40°10'28.406"N	104°52'45.426"W	1.90	
13449.00	90.830	1.430	7310.42	6255.81	6255.90	-375.62	1674136.89	14590413.66	40°10'29.325"N	104°52'45.423"W	2.81	
13542.00	91.540	0.400	7308.50	6348.77	6348.87	-374.14	1674138.25	14590506.59	40°10'30.244"N	104°52'45.404"W	1.34	
13636.00	89.350	2.510	7307.77	6442.73	6442.83	-371.75	1674140.51	14590600.51	40°10'31.172"N	104°52'45.373"W	3.24	
13730.00	90.180	2.040	7308.15	6536.65	6536.75	-368.02	1674144.11	14590694.40	40°10'32.100"N	104°52'45.325"W	1.01	
13823.00	91.820	1.890	7306.53	6629.58	6629.68	-364.83	1674147.17	14590787.29	40°10'33.019"N	104°52'45.284"W	1.77	
13917.00	89.510	1.920	7305.44	6723.52	6723.61	-361.71	1674150.16	14590881.20	40°10'33.947"N	104°52'45.244"W	2.46	
14011.00	89.780	1.570	7306.02	6817.47	6817.57	-358.84	1674152.89	14590975.12	40°10'34.875"N	104°52'45.207"W	0.47	
14105.00	90.250	1.120	7306.00	6911.45	6911.54	-356.64	1674154.97	14591069.06	40°10'35.804"N	104°52'45.178"W	0.69	
14198.00	91.570	0.830	7304.52	7004.42	7004.51	-355.05	1674156.42	14591161.99	40°10'36.723"N	104°52'45.158"W	1.45	
14292.00	89.910	0.990	7303.31	7098.40	7098.49	-353.56	1674157.79	14591255.93	40°10'37.652"N	104°52'45.139"W	1.77	
14385.00	89.750	0.140	7303.58	7191.39	7191.49	-352.64	1674158.57	14591348.89	40°10'38.570"N	104°52'45.127"W	0.93	
14480.00	90.550	359.250	7303.34	7286.39	7286.48	-353.15	1674157.94	14591443.85	40°10'39.509"N	104°52'45.134"W	1.26	
14574.00	91.480	358.800	7301.67	7380.36	7380.45	-354.75	1674156.21	14591537.78	40°10'40.438"N	104°52'45.154"W	1.10	
14668.00	92.310	358.150	7298.56	7474.27	7474.37	-357.25	1674153.58	14591631.65	40°10'41.366"N	104°52'45.186"W	1.12	
14762.00	90.060	359.630	7296.62	7568.23	7568.32	-359.07	1674151.64	14591725.57	40°10'42.294"N	104°52'45.210"W	2.86	
14856.00	90.990	359.740	7295.76	7662.22	7662.31	-359.59	1674150.99	14591819.52	40°10'43.223"N	104°52'45.217"W	1.00	
14950.00	91.630	359.000	7293.61	7756.19	7756.28	-360.62	1674149.83	14591913.45	40°10'44.152"N	104°52'45.230"W	1.04	
15044.00	89.940	0.550	7292.32	7850.17	7850.27	-360.99	1674149.33	14592007.40	40°10'45.081"N	104°52'45.235"W	2.44	
15138.00	91.540	0.700	7291.11	7944.16	7944.25	-359.96	1674150.23	14592101.34	40°10'46.009"N	104°52'45.222"W	1.71	
15232.00	88.770	359.730	7290.85	8038.14	8038.24	-359.61	1674150.45	14592195.30	40°10'46.938"N	104°52'45.217"W	3.12	
15326.00	88.950	359.530	7292.72	8132.12	8132.22	-360.22	1674149.71	14592289.24	40°10'47.867"N	104°52'45.225"W	0.29	
15420.00	89.320	358.670	7294.14	8226.10	8226.19	-361.69	1674148.11	14592383.17	40°10'48.796"N	104°52'45.244"W	1.00	
15515.00	90.460	357.870	7294.32	8321.05	8321.15	-364.56	1674145.11	14592478.09	40°10'49.734"N	104°52'45.281"W	1.47	
15609.00	91.510	357.280	7292.71	8414.95	8415.05	-368.54	1674141.01	14592571.94	40°10'50.662"N	104°52'45.332"W	1.28	
15703.00	89.780	358.560	7291.65	8508.88	8508.98	-371.95	1674137.47	14592665.83	40°10'51.590"N	104°52'45.376"W	2.29	
15797.00	90.860	358.190	7291.12	8602.84	8602.94	-374.62	1674134.68	14592759.74	40°10'52.518"N	104°52'45.410"W	1.21	
15891.00	91.690	357.970	7289.03	8696.76	8696.86	-377.76	1674131.40	14592853.63	40°10'53.447"N	104°52'45.451"W	0.91	
15950.00	92.160	357.850	7287.05	8755.69	8755.79	-379.91	1674129.17	14592912.53	40°10'54.029"N	104°52'45.479"W	0.82	LAST BHI MWD+IFR1+MSA SURVEY
15996.00	92.160	357.850	7285.32	8801.62	8801.72	-381.64	1674127.38	14592958.44	40°10'54.483"N	104°52'45.501"W	0.00	PTB (2578'FSL & 1797'FWL,SEC.34) 40.1818008 -104.8793058

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#56 BUTTERBALL 11N-34HZ (819'FNL & 2220'FWL,SEC.10)
Area	COLORADO	Well	BUTTERBALL 11N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 11N-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	367.60	-1840.06	1672681.13	14584525.71	40°09'31.136"N	104°53'04.283"W	polygon
SEC.10-T2N-R67W	-6.00	367.60	-1840.06	1672681.13	14584525.71	40°09'31.136"N	104°53'04.283"W	polygon
SEC.34-T3N-R67W	-6.00	367.60	-1840.06	1672681.13	14584525.71	40°09'31.136"N	104°53'04.283"W	polygon
BUTTERBALL 11N-34HZ BHL REV-2(2578'FSL & 1818'FWL,SEC.34)	7286.00	8802.16	-361.01	1674148.00	14592958.91	40°10'54.487"N	104°52'45.235"W	point
BUTTERBALL 11N-34HZ BHL REV-1(2578'FSL & 1818'FWL,SEC.34)	7306.00	8802.16	-361.01	1674148.00	14592958.91	40°10'54.487"N	104°52'45.235"W	point
BUTTERBALL 11N-34HZ HEEL REV-2(207'FNL & 1854'FWL,SEC.10)	7355.00	613.11	-363.08	1674157.17	14584773.15	40°09'33.563"N	104°52'45.260"W	point
BUTTERBALL 11N-34HZ 460' SETBACK 1	7375.00	0.00	0.00	1674520.95	14584160.78	40°09'27.504"N	104°52'40.584"W	polygon
BUTTERBALL 11N-34HZ 460' SETBACK 2	7375.00	0.00	0.00	1674520.95	14584160.78	40°09'27.504"N	104°52'40.584"W	polygon
BUTTERBALL 11N-34HZ HEEL REV-1(207'FNL & 1854'FWL,SEC.10)	7375.00	613.11	-363.09	1674157.17	14584773.15	40°09'33.563"N	104°52'45.260"W	point
BUTTERBALL 11N-34HZ LANDBOX	7375.00	0.00	0.00	1674520.95	14584160.78	40°09'27.504"N	104°52'40.584"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: BUTTERBALL 11N-34HZ AWB				Ref Wellpath: BUTTERBALL 11N-34HZ AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore
32.00	1800.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	SDI Custom APC ISCWSA Rev-2 MWD+IFR1 <188 - 1800>		BUTTERBALL 11N-34HZ AWB
1800.00	15950.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHI Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1929 - 15950>		BUTTERBALL 11N-34HZ AWB
15950.00	15996.00	Blind Drilling (std)	Projection to bit		BUTTERBALL 11N-34HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#56 BUTTERBALL 11N-34HZ (819'FNL & 2220'FWL,SEC.10)
Area	COLORADO	Well	BUTTERBALL 11N-34HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUTTERBALL 11N-34HZ AWB
Facility	SEC.10-T2N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
188.00	0.970	322.760	187.99	FIRST SDI MWD+IFR1 SURVEY
1800.00	6.020	264.960	1797.69	LAST SDI MWD+IFR1 SURVEY
1929.00	5.040	258.060	1926.09	FIRST BHI MWD+IFR1+MSA SURVEY
6617.00	0.949	9.284	6597.85	KOP
7020.00	31.043	1.906	6979.25	ENTER LANDBOX (780'FNL & 1872'FWL,SEC.10) 40.1575322 -104.8791810
7758.00	88.120	1.860	7355.33	LANDING (251'FNL & 1879'FWL,SEC.10) 40.1592000 -104.8791598
15950.00	92.160	357.850	7287.05	LAST BHI MWD+IFR1+MSA SURVEY
15996.00	92.160	357.850	7285.32	PTB (2578'FSL & 1797'FWL,SEC.34) 40.1818008 -104.8793058