

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 RW 38N-31HZ(442'FSL & 1614'FWL,SEC.29)
Area	COLORADO	Well	RW 38N-31HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	RW 38N-31HZ AWB
Facility	SEC.29-T3N-R65W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999609	Report Generated	7/28/2017 at 1:16 PM
Convergence at slot	0.20° East	Database/Source file	WA_DEN_Anadarko_Defn/RW_38N-31HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-77.60	793.68	1726726.17	14596214.64	40°11'25.415"N	104°41'27.413"W
Facility Reference Pt			1725932.54	14596289.48	40°11'26.182"N	104°41'37.640"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 22 (17') (RT) to Facility Vertical Datum	4903.00ft
Horizontal Reference Pt	Slot	Xtreme 22 (17') (RT) to Mean Sea Level	4903.00ft
Vertical Reference Pt	Xtreme 22 (17') (RT)	Xtreme 22 (17') (RT) to Mud Line at Slot (SLOT#37 RW 38N-31HZ(442'FSL & 1614'FWL,SEC.29))	4903.00ft
MD Reference Pt	Xtreme 22 (17') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.98°

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Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	RW 38N-31HZ AWB
Facility	SEC.29-T3N-R65W		

WELLPATH DATA (151 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†	0.00	267.020	0.00	0.00	0.00	0.00	1726726.17	14596214.64	40°11'25.415"N	104°41'27.413"W	0.00	
17.00	0.00	267.020	17.00	0.00	0.00	0.00	1726726.17	14596214.64	40°11'25.415"N	104°41'27.413"W	0.00	
205.00	0.590	267.020	205.00	0.05	-0.05	-0.97	1726725.20	14596214.59	40°11'25.415"N	104°41'27.425"W	0.31	FIRST BHGE SURFACE MWD+IFR1+SC SURVEY
295.00	1.540	278.980	294.98	-0.12	0.11	-2.62	1726723.55	14596214.75	40°11'25.416"N	104°41'27.447"W	1.08	
386.00	2.800	277.960	385.91	-0.62	0.61	-6.03	1726720.14	14596215.23	40°11'25.421"N	104°41'27.491"W	1.39	
476.00	3.680	268.150	475.77	-0.83	0.82	-11.10	1726715.07	14596215.43	40°11'25.423"N	104°41'27.556"W	1.15	
568.00	5.570	266.540	567.47	-0.47	0.46	-18.51	1726707.67	14596215.04	40°11'25.420"N	104°41'27.651"W	2.06	
658.00	7.310	272.680	656.90	-0.47	0.46	-28.59	1726697.59	14596215.00	40°11'25.420"N	104°41'27.781"W	2.08	
746.00	8.590	272.270	744.05	-1.00	0.99	-40.75	1726685.44	14596215.48	40°11'25.425"N	104°41'27.938"W	1.46	
834.00	9.540	269.090	830.95	-1.15	1.13	-54.60	1726671.58	14596215.58	40°11'25.426"N	104°41'28.117"W	1.22	
921.00	10.750	264.860	916.59	-0.31	0.29	-69.89	1726656.30	14596214.69	40°11'25.418"N	104°41'28.314"W	1.63	
1009.00	11.820	264.880	1002.88	1.22	-1.25	-87.05	1726639.16	14596213.09	40°11'25.403"N	104°41'28.535"W	1.22	
1096.00	12.590	265.580	1087.92	2.74	-2.78	-105.37	1726620.85	14596211.50	40°11'25.388"N	104°41'28.771"W	0.90	
1183.00	13.530	268.810	1172.67	3.68	-3.72	-125.00	1726601.23	14596210.49	40°11'25.378"N	104°41'29.024"W	1.37	
1271.00	14.320	267.910	1258.08	4.28	-4.33	-146.17	1726580.07	14596209.80	40°11'25.372"N	104°41'29.296"W	0.93	
1358.00	15.530	271.050	1342.15	4.45	-4.51	-168.57	1726557.68	14596209.55	40°11'25.370"N	104°41'29.585"W	1.67	
1446.00	16.940	271.420	1426.63	3.91	-3.98	-193.17	1726533.09	14596209.99	40°11'25.376"N	104°41'29.902"W	1.61	
1533.00	18.260	271.010	1509.56	3.34	-3.42	-219.47	1726506.80	14596210.46	40°11'25.381"N	104°41'30.241"W	1.52	
1621.00	19.650	269.990	1592.79	3.09	-3.18	-248.05	1726478.23	14596210.60	40°11'25.384"N	104°41'30.609"W	1.62	
1708.00	21.070	269.590	1674.35	3.20	-3.29	-278.32	1726447.98	14596210.38	40°11'25.382"N	104°41'30.999"W	1.64	
1796.00	23.030	268.440	1755.91	3.77	-3.88	-311.34	1726414.96	14596209.68	40°11'25.377"N	104°41'31.425"W	2.28	
1828.00	23.580	267.480	1785.30	4.22	-4.33	-323.99	1726402.32	14596209.19	40°11'25.372"N	104°41'31.588"W	2.09	LAST BHGE SURFACE MWD+IFR1+SC SURVEY
1892.00	23.450	267.750	1843.98	5.27	-5.39	-349.51	1726376.82	14596208.04	40°11'25.362"N	104°41'31.917"W	0.26	FIRST BHGE PRODUCTION MWD+IFR1+SC SURVEY
1980.00	24.160	271.940	1924.50	5.33	-5.47	-385.01	1726341.34	14596207.83	40°11'25.361"N	104°41'32.374"W	2.08	
2067.00	25.600	269.530	2003.43	4.87	-5.02	-421.60	1726304.76	14596208.16	40°11'25.365"N	104°41'32.845"W	2.02	
2155.00	24.970	269.550	2083.00	5.16	-5.32	-459.18	1726267.19	14596207.72	40°11'25.362"N	104°41'33.330"W	0.72	
2242.00	25.830	267.920	2161.59	5.98	-6.15	-496.49	1726229.90	14596206.76	40°11'25.354"N	104°41'33.810"W	1.27	
2330.00	25.250	268.300	2240.99	7.22	-7.41	-534.41	1726192.00	14596205.38	40°11'25.342"N	104°41'34.299"W	0.68	
2417.00	24.360	266.600	2319.96	8.82	-9.02	-570.87	1726155.56	14596203.64	40°11'25.326"N	104°41'34.769"W	1.31	
2505.00	23.920	271.760	2400.27	9.34	-9.55	-606.82	1726119.63	14596202.98	40°11'25.321"N	104°41'35.232"W	2.45	
2593.00	24.080	274.080	2480.67	7.50	-7.72	-642.56	1726083.89	14596204.68	40°11'25.339"N	104°41'35.693"W	1.09	
2680.00	25.630	276.010	2559.61	4.25	-4.49	-678.98	1726047.48	14596207.79	40°11'25.371"N	104°41'36.162"W	2.01	
2768.00	25.900	275.890	2638.86	0.28	-0.53	-717.02	1726009.43	14596211.62	40°11'25.410"N	104°41'36.652"W	0.31	
2855.00	25.200	276.010	2717.35	-3.63	3.36	-754.34	1725972.11	14596215.38	40°11'25.448"N	104°41'37.133"W	0.81	
2942.00	25.990	273.950	2795.82	-6.89	6.61	-791.78	1725934.68	14596218.50	40°11'25.480"N	104°41'37.616"W	1.37	
3029.00	25.790	274.490	2874.08	-9.70	9.41	-829.67	1725896.80	14596221.16	40°11'25.508"N	104°41'38.104"W	0.36	
3117.00	25.170	274.000	2953.52	-12.52	12.21	-867.42	1725859.05	14596223.83	40°11'25.536"N	104°41'38.590"W	0.74	
3204.00	26.330	274.740	3031.88	-15.41	15.10	-905.10	1725821.37	14596226.58	40°11'25.564"N	104°41'39.076"W	1.38	
3292.00	24.700	274.700	3111.30	-18.55	18.22	-942.88	1725783.60	14596229.57	40°11'25.595"N	104°41'39.562"W	1.85	
3379.00	25.270	274.360	3190.16	-21.46	21.12	-979.51	1725746.97	14596232.34	40°11'25.624"N	104°41'40.035"W	0.68	
3467.00	25.190	273.550	3269.76	-24.06	23.71	-1016.93	1725709.56	14596234.80	40°11'25.649"N	104°41'40.517"W	0.40	
3555.00	24.630	273.770	3349.57	-26.44	26.07	-1053.92	1725672.58	14596237.03	40°11'25.672"N	104°41'40.993"W	0.65	
3668.00	24.050	273.330	3452.53	-29.34	28.96	-1100.41	1725626.10	14596239.76	40°11'25.701"N	104°41'41.592"W	0.54	
3756.00	24.910	275.810	3532.62	-32.27	31.88	-1136.75	1725589.77	14596242.55	40°11'25.730"N	104°41'42.061"W	1.52	
3796.00†	24.945	276.443	3568.90	-34.08	33.67	-1153.51	1725573.00	14596244.29	40°11'25.748"N	104°41'42.277"W	0.67	ENTER LANDBOX (476'FSL & 461'FWL,SEC.29) 40.1904854 -104.6950768

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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
3844.00	24.990	277.200	3612.41	-36.49	36.08	-1173.62	1725552.89	14596246.62	40°11'25.771"N	104°41'42.536"W	0.67	
3931.00	25.760	274.380	3691.02	-40.25	39.83	-1210.71	1725515.81	14596250.24	40°11'25.808"N	104°41'43.014"W	1.65	
4019.00	25.690	274.320	3770.30	-43.16	42.73	-1248.80	1725477.72	14596253.00	40°11'25.837"N	104°41'43.504"W	0.08	
4105.00	25.900	275.380	3847.73	-46.34	45.89	-1286.08	1725440.44	14596256.04	40°11'25.868"N	104°41'43.985"W	0.59	
4193.00	24.930	274.860	3927.21	-49.73	49.26	-1323.70	1725402.83	14596259.28	40°11'25.901"N	104°41'44.470"W	1.13	
4280.00	26.510	274.260	4005.59	-52.74	52.26	-1361.33	1725365.20	14596262.14	40°11'25.931"N	104°41'44.954"W	1.84	
4368.00	26.020	274.800	4084.50	-55.82	55.33	-1400.15	1725326.38	14596265.08	40°11'25.961"N	104°41'45.455"W	0.62	
4455.00	24.750	273.740	4163.10	-58.62	58.12	-1437.34	1725289.20	14596267.74	40°11'25.989"N	104°41'45.934"W	1.55	
4543.00	25.120	275.170	4242.90	-61.52	61.00	-1474.33	1725252.22	14596270.49	40°11'26.017"N	104°41'46.411"W	0.80	
4630.00	25.370	274.950	4321.59	-64.80	64.28	-1511.29	1725215.26	14596273.63	40°11'26.050"N	104°41'46.887"W	0.31	
4718.00	25.760	273.780	4400.98	-67.70	67.16	-1549.15	1725177.40	14596276.39	40°11'26.078"N	104°41'47.375"W	0.72	
4805.00	24.220	273.050	4479.83	-69.91	69.36	-1585.84	1725140.72	14596278.45	40°11'26.100"N	104°41'47.847"W	1.81	
4893.00	25.560	274.580	4559.65	-72.40	71.84	-1622.79	1725103.78	14596280.80	40°11'26.124"N	104°41'48.324"W	1.69	
4980.00	26.040	272.310	4637.98	-74.68	74.10	-1660.58	1725065.99	14596282.94	40°11'26.147"N	104°41'48.810"W	1.26	
5068.00	24.910	273.570	4717.43	-76.63	76.04	-1698.38	1725028.20	14596284.74	40°11'26.166"N	104°41'49.298"W	1.42	
5155.00	23.290	272.580	4796.84	-78.56	77.95	-1733.85	1724992.74	14596286.53	40°11'26.185"N	104°41'49.755"W	1.92	
5243.00	21.520	272.610	4878.19	-80.09	79.47	-1767.35	1724959.24	14596287.93	40°11'26.200"N	104°41'50.186"W	2.01	
5331.00	19.850	272.750	4960.52	-81.55	80.92	-1798.40	1724928.20	14596289.27	40°11'26.214"N	104°41'50.586"W	1.90	
5418.00	18.520	274.140	5042.69	-83.27	82.63	-1826.94	1724899.67	14596290.88	40°11'26.231"N	104°41'50.954"W	1.62	
5505.00	17.710	273.890	5125.37	-85.17	84.52	-1853.92	1724872.69	14596292.68	40°11'26.250"N	104°41'51.302"W	0.94	
5593.00	16.040	273.990	5209.58	-86.93	86.28	-1879.41	1724847.21	14596294.34	40°11'26.267"N	104°41'51.630"W	1.90	
5680.00	13.800	273.920	5293.64	-88.49	87.82	-1901.75	1724824.87	14596295.81	40°11'26.282"N	104°41'51.918"W	2.57	
5768.00	12.620	272.140	5379.31	-89.57	88.90	-1921.83	1724804.80	14596296.82	40°11'26.293"N	104°41'52.177"W	1.42	
5855.00	10.790	274.080	5464.50	-90.51	89.84	-1939.45	1724787.18	14596297.69	40°11'26.302"N	104°41'52.404"W	2.15	
5942.00	8.980	270.790	5550.21	-91.19	90.51	-1954.37	1724772.27	14596298.31	40°11'26.309"N	104°41'52.596"W	2.18	
6030.00	7.130	272.870	5637.33	-91.56	90.88	-1966.69	1724759.95	14596298.64	40°11'26.312"N	104°41'52.755"W	2.13	
6117.00	5.340	270.630	5723.82	-91.88	91.19	-1976.13	1724750.51	14596298.92	40°11'26.315"N	104°41'52.877"W	2.08	
6205.00	3.460	259.820	5811.55	-91.46	90.77	-1982.84	1724743.81	14596298.47	40°11'26.311"N	104°41'52.963"W	2.33	
6292.00	1.050	247.550	5898.48	-90.69	90.00	-1986.16	1724740.49	14596297.69	40°11'26.304"N	104°41'53.006"W	2.81	
6380.00	0.130	54.410	5986.48	-90.44	89.75	-1986.82	1724739.83	14596297.44	40°11'26.301"N	104°41'53.014"W	1.34	
6468.00	0.200	32.560	6074.48	-90.63	89.94	-1986.66	1724739.99	14596297.63	40°11'26.303"N	104°41'53.012"W	0.11	
6555.00	0.500	81.260	6161.47	-90.82	90.12	-1986.20	1724740.44	14596297.82	40°11'26.305"N	104°41'53.006"W	0.46	
6643.00	0.300	104.140	6249.47	-90.82	90.12	-1985.60	1724741.05	14596297.82	40°11'26.305"N	104°41'52.999"W	0.29	
6657.00†	0.491	161.124	6263.47	-90.75	90.06	-1985.55	1724741.10	14596297.75	40°11'26.304"N	104°41'52.998"W	2.95	KOP
6730.00	2.560	191.950	6336.44	-88.86	88.17	-1985.78	1724740.87	14596295.86	40°11'26.285"N	104°41'53.001"W	2.95	
6817.00	9.600	210.540	6422.90	-80.70	80.01	-1989.88	1724736.81	14596287.69	40°11'26.205"N	104°41'53.054"W	8.30	
6905.00	16.750	199.830	6508.54	-62.43	61.73	-1997.92	1724728.83	14596269.40	40°11'26.024"N	104°41'53.157"W	8.55	
6992.00	24.110	196.610	6590.02	-33.57	32.87	-2007.26	1724719.59	14596240.51	40°11'25.739"N	104°41'53.278"W	8.55	
7080.00	29.320	189.690	6668.62	4.92	-5.63	-2016.04	1724710.96	14596202.00	40°11'25.359"N	104°41'53.391"W	6.89	
7167.00	35.370	176.530	6742.18	51.16	-51.86	-2018.10	1724709.05	14596155.78	40°11'24.902"N	104°41'53.417"W	10.64	
7255.00	42.690	175.840	6810.49	106.41	-107.11	-2014.39	1724712.95	14596100.56	40°11'24.356"N	104°41'53.369"W	8.33	
7342.00	49.600	180.920	6870.75	169.05	-169.75	-2012.78	1724714.78	14596037.96	40°11'23.737"N	104°41'53.349"W	8.98	
7430.00	57.180	181.600	6923.19	239.61	-240.32	-2014.35	1724713.46	14595967.41	40°11'23.039"N	104°41'53.369"W	8.64	
7519.00	67.100	179.840	6964.73	318.19	-318.89	-2015.29	1724712.80	14595888.86	40°11'22.263"N	104°41'53.381"W	11.28	
7606.00	71.000	178.820	6995.84	399.42	-400.12	-2014.33	1724714.04	14595807.67	40°11'21.460"N	104°41'53.368"W	4.61	

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Area	COLORADO	Well	RW 38N-31HZ
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7693.00	78.270	174.100	7018.88	483.06	-483.76	-2009.09	1724719.56	14595724.08	40°11'20.634"N	104°41'53.301"W	9.86	
7781.00	85.560	173.720	7031.25	569.64	-570.34	-1999.85	1724729.10	14595637.57	40°11'19.778"N	104°41'53.182"W	8.30	
7868.00	88.430	177.450	7035.81	656.24	-656.94	-1993.17	1724736.08	14595551.03	40°11'18.922"N	104°41'53.095"W	5.40	LANDING (215'FNL & 379'FEL,SEC.31) 40.1885895 -104.6980820
7911.00†	88.322	177.157	7037.03	699.18	-699.87	-1991.15	1724738.25	14595508.12	40°11'18.498"N	104°41'53.069"W	0.73	EXIT RADIUS HEEL (258'FNL & 379'FEL,SEC.31) 40.1884717 -104.6980748
7956.00	88.210	176.850	7038.39	744.10	-744.79	-1988.80	1724740.76	14595463.23	40°11'18.054"N	104°41'53.039"W	0.73	
8043.00	89.480	179.010	7040.15	831.02	-831.71	-1985.66	1724744.20	14595376.36	40°11'17.195"N	104°41'52.998"W	2.88	
8131.00	91.730	180.460	7039.22	919.00	-919.69	-1985.25	1724744.91	14595288.41	40°11'16.326"N	104°41'52.993"W	3.04	
8218.00	90.830	181.570	7037.28	1005.96	-1006.66	-1986.79	1724743.68	14595201.47	40°11'15.466"N	104°41'53.013"W	1.64	
8306.00	91.140	181.120	7035.76	1093.93	-1094.62	-1988.85	1724741.92	14595113.54	40°11'14.597"N	104°41'53.039"W	0.62	
8393.00	90.280	180.920	7034.68	1180.90	-1181.60	-1990.40	1724740.67	14595026.59	40°11'13.738"N	104°41'53.059"W	1.01	
8481.00	89.350	179.200	7034.97	1268.90	-1269.59	-1990.50	1724740.89	14594938.63	40°11'12.868"N	104°41'53.060"W	2.22	
8568.00	89.720	180.030	7035.67	1355.89	-1356.59	-1989.91	1724741.77	14594851.67	40°11'12.008"N	104°41'53.053"W	1.04	
8656.00	89.080	178.090	7036.60	1443.87	-1444.57	-1988.47	1724743.52	14594763.73	40°11'11.139"N	104°41'53.034"W	2.32	
8743.00	88.740	179.540	7038.25	1530.84	-1531.53	-1986.67	1724745.62	14594676.81	40°11'10.280"N	104°41'53.011"W	1.71	
8831.00	89.110	179.300	7039.90	1618.82	-1619.51	-1985.78	1724746.82	14594588.87	40°11'09.410"N	104°41'52.999"W	0.50	
8918.00	87.880	180.580	7042.19	1705.78	-1706.48	-1985.69	1724747.21	14594501.94	40°11'08.551"N	104°41'52.998"W	2.04	
9006.00	87.970	180.120	7045.37	1793.72	-1794.42	-1986.22	1724746.98	14594414.03	40°11'07.682"N	104°41'53.005"W	0.53	
9093.00	89.170	181.370	7047.55	1880.68	-1881.38	-1987.35	1724746.15	14594327.10	40°11'06.822"N	104°41'53.019"W	1.99	
9181.00	89.320	180.940	7048.70	1968.66	-1969.35	-1989.13	1724744.69	14594239.15	40°11'05.953"N	104°41'53.042"W	0.52	
9268.00	89.910	180.640	7049.29	2055.65	-2056.34	-1990.33	1724743.79	14594152.19	40°11'05.093"N	104°41'53.057"W	0.76	
9356.00	88.520	181.140	7050.49	2143.63	-2144.32	-1991.69	1724742.73	14594064.25	40°11'04.224"N	104°41'53.075"W	1.68	
9443.00	88.580	180.810	7052.70	2230.58	-2231.28	-1993.17	1724741.55	14593977.32	40°11'03.365"N	104°41'53.094"W	0.39	
9531.00	88.860	180.050	7054.66	2318.56	-2319.25	-1993.83	1724741.20	14593889.37	40°11'02.495"N	104°41'53.102"W	0.92	
9618.00	89.880	181.050	7055.62	2405.55	-2406.24	-1994.67	1724740.67	14593802.42	40°11'01.636"N	104°41'53.113"W	1.64	
9706.00	89.630	180.700	7056.00	2493.54	-2494.23	-1996.01	1724739.63	14593714.46	40°11'00.766"N	104°41'53.130"W	0.49	
9793.00	90.990	180.800	7055.52	2580.52	-2581.22	-1997.15	1724738.80	14593627.50	40°10'59.907"N	104°41'53.145"W	1.57	
9881.00	91.230	180.550	7053.82	2668.50	-2669.20	-1998.19	1724738.07	14593539.56	40°10'59.037"N	104°41'53.158"W	0.39	
9968.00	91.230	180.370	7051.95	2755.48	-2756.18	-1998.89	1724737.67	14593452.61	40°10'58.178"N	104°41'53.167"W	0.21	
10056.00	91.670	179.640	7049.73	2843.45	-2844.15	-1998.89	1724737.97	14593364.68	40°10'57.308"N	104°41'53.167"W	0.97	
10143.00	90.250	180.650	7048.27	2930.43	-2931.13	-1999.11	1724738.05	14593277.72	40°10'56.449"N	104°41'53.170"W	2.00	
10231.00	90.590	180.400	7047.62	3018.43	-3019.12	-1999.92	1724737.55	14593189.76	40°10'55.579"N	104°41'53.180"W	0.48	
10318.00	90.740	179.560	7046.61	3105.42	-3106.12	-1999.89	1724737.88	14593102.81	40°10'54.720"N	104°41'53.179"W	0.98	
10405.00	89.260	181.010	7046.61	3192.41	-3193.11	-2000.32	1724737.76	14593015.84	40°10'53.860"N	104°41'53.185"W	2.38	
10493.00	89.720	181.520	7047.40	3280.39	-3281.09	-2002.27	1724736.12	14592927.90	40°10'52.990"N	104°41'53.210"W	0.78	
10581.00	90.340	181.380	7047.35	3368.36	-3369.06	-2004.49	1724734.20	14592839.95	40°10'52.121"N	104°41'53.238"W	0.72	
10668.00	89.110	180.950	7047.77	3455.34	-3456.04	-2006.26	1724732.73	14592753.00	40°10'51.262"N	104°41'53.261"W	1.50	
10756.00	89.200	180.420	7049.07	3543.32	-3544.02	-2007.31	1724731.99	14592665.05	40°10'50.392"N	104°41'53.275"W	0.61	
10844.00	89.780	180.120	7049.85	3631.31	-3632.02	-2007.73	1724731.88	14592577.09	40°10'49.523"N	104°41'53.280"W	0.74	
10931.00	89.260	180.690	7050.58	3718.31	-3719.01	-2008.34	1724731.57	14592490.13	40°10'48.663"N	104°41'53.288"W	0.89	
11019.00	89.230	180.210	7051.74	3806.30	-3807.00	-2009.03	1724731.18	14592402.17	40°10'47.793"N	104°41'53.296"W	0.55	
11106.00	88.180	181.250	7053.70	3893.27	-3893.97	-2010.14	1724730.38	14592315.23	40°10'46.934"N	104°41'53.311"W	1.70	
11193.00	88.490	180.920	7056.23	3980.21	-3980.92	-2011.79	1724729.04	14592228.32	40°10'46.075"N	104°41'53.332"W	0.52	
11281.00	88.550	180.720	7058.50	4068.17	-4068.88	-2013.05	1724728.08	14592140.38	40°10'45.206"N	104°41'53.348"W	0.24	
11368.00	89.110	181.530	7060.28	4155.14	-4155.84	-2014.76	1724726.68	14592053.45	40°10'44.346"N	104°41'53.370"W	1.13	
11456.00	90.860	181.370	7060.30	4243.10	-4243.81	-2016.98	1724724.76	14591965.51	40°10'43.477"N	104°41'53.398"W	2.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 RW 38N-31HZ(442'FSL & 1614'FWL,SEC.29)
Area	COLORADO	Well	RW 38N-31HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	RW 38N-31HZ AWB
Facility	SEC.29-T3N-R65W		

WELLPATH DATA (151 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
11543.00	91.480	181.370	7058.53	4330.06	-4330.77	-2019.06	1724722.98	14591878.58	40°10'42.618"N	104°41'53.425"W	0.71	
11631.00	91.720	180.670	7056.07	4418.01	-4418.72	-2020.63	1724721.72	14591790.66	40°10'41.748"N	104°41'53.445"W	0.84	
11718.00	89.820	179.090	7054.90	4505.00	-4505.70	-2020.45	1724722.21	14591703.71	40°10'40.889"N	104°41'53.443"W	2.84	
11806.00	88.950	178.840	7055.85	4592.98	-4593.68	-2018.86	1724724.10	14591615.77	40°10'40.019"N	104°41'53.422"W	1.03	
11894.00	88.180	179.140	7058.05	4680.94	-4681.64	-2017.31	1724725.96	14591527.85	40°10'39.150"N	104°41'53.402"W	0.94	
11981.00	88.550	180.890	7060.53	4767.90	-4768.60	-2017.33	1724726.24	14591440.93	40°10'38.291"N	104°41'53.402"W	2.06	
12068.00	89.050	180.560	7062.35	4854.87	-4855.57	-2018.43	1724725.44	14591353.98	40°10'37.431"N	104°41'53.416"W	0.69	
12156.00	89.600	180.650	7063.39	4942.86	-4943.56	-2019.36	1724724.82	14591266.03	40°10'36.562"N	104°41'53.428"W	0.63	
12244.00	90.620	180.410	7063.22	5030.85	-5031.56	-2020.17	1724724.31	14591178.06	40°10'35.692"N	104°41'53.439"W	1.19	
12331.00	89.480	181.000	7063.15	5117.84	-5118.55	-2021.24	1724723.54	14591091.10	40°10'34.833"N	104°41'53.452"W	1.48	
12419.00	89.910	181.100	7063.61	5205.83	-5206.53	-2022.86	1724722.24	14591003.15	40°10'33.963"N	104°41'53.473"W	0.50	
12593.00	91.380	180.750	7061.66	5379.79	-5380.49	-2025.66	1724720.04	14590829.25	40°10'32.244"N	104°41'53.509"W	0.87	
12675.00†	91.128	179.855	7059.86	5461.77	-5462.47	-2026.10	1724719.89	14590747.30	40°10'31.434"N	104°41'53.514"W	1.13	ENTER RADIUS HEEL (264'FSL & 375'FEL,SEC.31) 40.1753983 -104.6981985
12725.00	91.540	179.720	7058.73	5511.75	-5512.46	-2025.89	1724720.27	14590697.33	40°10'30.940"N	104°41'53.512"W	0.99	LAST BHGE PRODUCTION MWD+IFR1+SC SURVEY
12769.00	91.540	179.720	7057.54	5555.74	-5556.44	-2025.68	1724720.64	14590653.37	40°10'30.505"N	104°41'53.509"W	0.00	PTB (170'FSL & 375'FEL,SEC.31) 40.1751404 -104.6981969

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 RW 38N-31HZ(442'FSL & 1614'FWL,SEC.29)
Area	COLORADO	Well	RW 38N-31HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	RW 38N-31HZ AWB
Facility	SEC.29-T3N-R65W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.05-T2N-R65W	1.00	0.00	0.00	1726726.17	14596214.64	40°11'25.415"N	104°41'27.413"W	polygon
SEC.29-T3N-R65W	1.00	0.00	0.00	1726726.17	14596214.64	40°11'25.415"N	104°41'27.413"W	polygon
SEC.30-T3N-R65W	1.00	0.00	0.00	1726726.17	14596214.64	40°11'25.415"N	104°41'27.413"W	polygon
SEC.31-T3N-R65W	1.00	0.00	0.00	1726726.17	14596214.64	40°11'25.415"N	104°41'27.413"W	polygon
SEC.32-T3N-R65W	1.00	0.00	0.00	1726726.17	14596214.64	40°11'25.415"N	104°41'27.413"W	polygon
RW 38N-31HZ HEEL REV-1(193'FNL & 374'FEL,SEC.31)	7031.00	-631.67	-1987.56	1724741.60	14595576.30	40°11'19.172"N	104°41'53.023"W	point
RW 38N-31HZ BHL REV-1(296'FSL & 335'FEL,SEC.31)	7059.00	-5429.79	-1985.69	1724760.16	14590780.11	40°10'31.757"N	104°41'52.994"W	point
RW 38N-31HZ BHL REV-2(216'FSL & 335'FEL,SEC.31)	7059.00	-5510.00	-1985.69	1724760.44	14590699.93	40°10'30.964"N	104°41'52.994"W	point
RW 38N-31HZ BHL REV-3(187'FSL & 377'FEL,SEC.31)	7059.00	-5539.00	-2027.69	1724718.56	14590670.80	40°10'30.678"N	104°41'53.535"W	point
RW 38N-31HZ LANDBOX	7062.00	0.00	0.00	1726726.17	14596214.64	40°11'25.415"N	104°41'27.413"W	polygon
RW 38N-31HZ RADIUS 1	7062.00	-438.81	-1611.94	1725116.40	14595770.40	40°11'21.078"N	104°41'48.183"W	polygon
RW 38N-31HZ RADIUS 2	7062.00	-5726.48	-1652.75	1725094.00	14590484.70	40°10'28.825"N	104°41'48.705"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: RW 38N-31HZ AWB Ref Wellpath: RW 38N-31HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	1828.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+SC <205 - 1828>	RW 38N-31HZ AWB
1828.00	12725.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+SC <1892 - 12725>	RW 38N-31HZ AWB
12725.00	12769.00	Blind Drilling (std)	Projection to bit	RW 38N-31HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 RW 38N-31HZ(442'FSL & 1614'FWL,SEC.29)
Area	COLORADO	Well	RW 38N-31HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	RW 38N-31HZ AWB
Facility	SEC.29-T3N-R65W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
205.00	0.590	267.020	205.00	FIRST BHGE SURFACE MWD+IFR1+SC SURVEY
1828.00	23.580	267.480	1785.30	LAST BHGE SURFACE MWD+IFR1+SC SURVEY
1892.00	23.450	267.750	1843.98	FIRST BHGE PRODUCTION MWD+IFR1+SC SURVEY
3796.00	24.945	276.443	3568.90	ENTER LANDBOX (476'FSL & 461'FWL,SEC.29) 40.1904854 -104.6950768
6657.00	0.491	161.124	6263.47	KOP
7868.00	88.430	177.450	7035.81	LANDING (215'FNL & 379'FEL,SEC.31) 40.1885895 -104.6980820
7911.00	88.322	177.157	7037.03	EXIT RADIUS HEEL (258'FNL & 379'FEL,SEC.31) 40.1884717 -104.6980748
12675.00	91.128	179.855	7059.86	ENTER RADIUS HEEL (264'FSL & 375'FEL,SEC.31) 40.1753983 -104.6981985
12725.00	91.540	179.720	7058.73	LAST BHGE PRODUCTION MWD+IFR1+SC SURVEY
12769.00	91.540	179.720	7057.54	PTB (170'FSL & 375'FEL,SEC.31) 40.1751404 -104.6981969