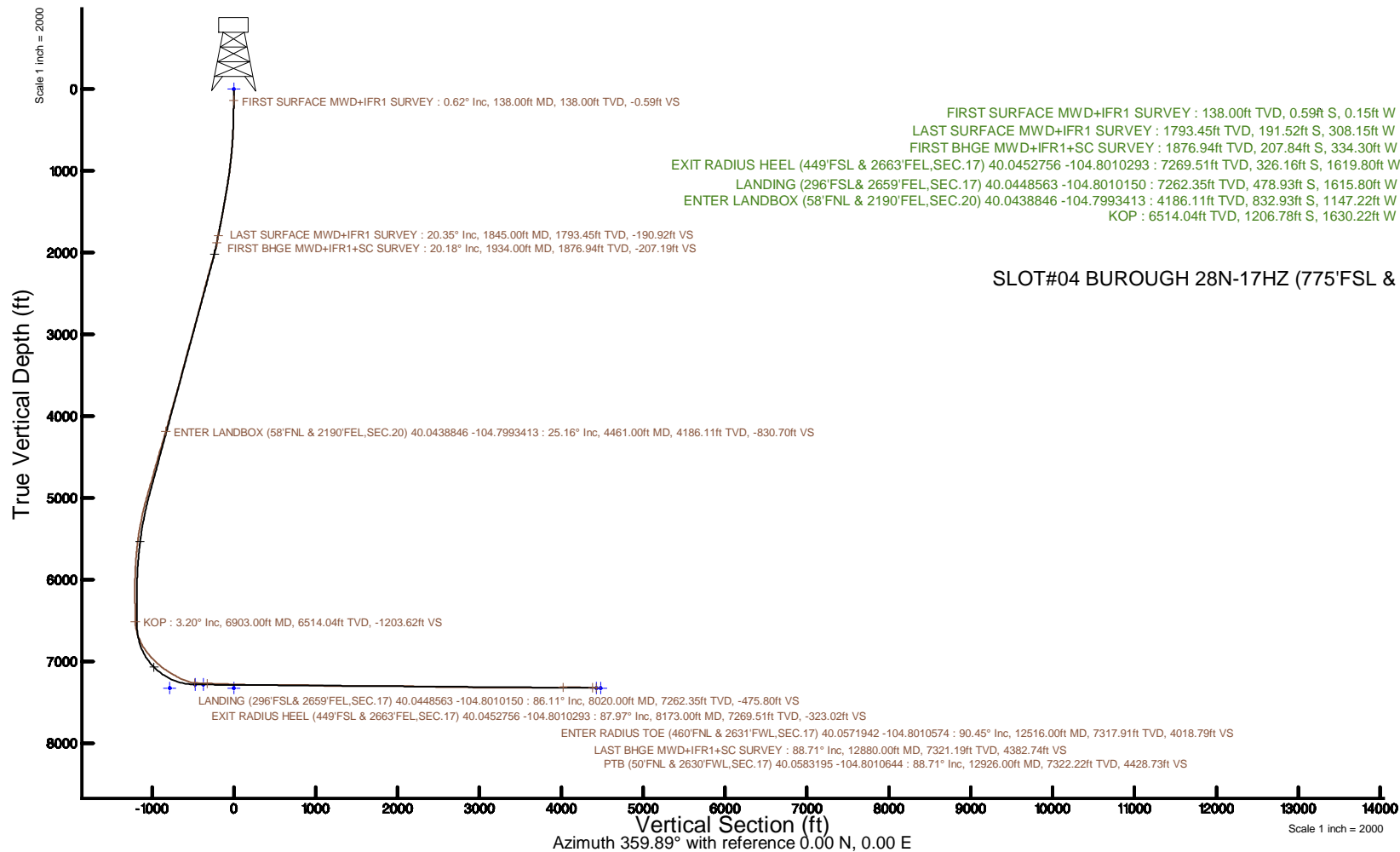


Location:	COLORADO	Slot:	SLOT#04 BUROUGH 28N-17HZ (775FSL & 1043FEL,SEC.17)
Field:	WELD COUNTY (UTM/TRUE NORTH)	Well:	BUROUGH 28N-17HZ
Facility:	SEC.17-T1N-R66W	Wellbore:	BUROUGH 28N-17HZ PWB
<p>Plot reference wellpath is BUROUGH 28N-17HZ PWP Rev-B.0</p> <p>True vertical depths are referenced to PD 564 (26) (RT)</p> <p>Measured depths are referenced to PD 564 (26) (RT)</p> <p>PD 564 (26) to Mean Sea Level: 5005 feet</p> <p>Mean Sea Level to Mud line (At Slot: SLOT#04 BUROUGH 28N-17HZ (775FSL & 1043FEL,SEC.17)): 0 feet</p> <p>Coordinates are in feet referenced to Slot</p>			
<p>Grid System: NAD83 / UTM Zone 13 North, US feet</p> <p>* = Wellpath was transformed from a different geoidic datum</p> <p>North Reference: True north</p> <p>Scale: True distance</p> <p>Depths are in feet</p> <p>Created by: painsear on 2017-12-06</p> <p>Database: WA_DEN_Anadarko_Defn</p>			



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#04 BROUGH 28N-17HZ (775'FSL & 1043'FEL,SEC.17)
Area	COLORADO	Well	BROUGH 28N-17HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BROUGH 28N-17HZ AWP
Facility	SEC.17-T1N-R66W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999604	Report Generated	12/6/2017 at 1:32 PM
Convergence at slot	0.14° East	Database/Source file	WA_DEN_Anadarko_Defn/BROUGH_28N-17HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-8437.77	-534.91	1697720.19	14543612.19	40°02'46.216"N	104°47'42.878"W
Facility Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	PD 564 (26') (RT) to Facility Vertical Datum	5005.00ft
Horizontal Reference Pt	Slot	PD 564 (26') (RT) to Mean Sea Level	5005.00ft
Vertical Reference Pt	PD 564 (26') (RT)	PD 564 (26') (RT) to Mud Line at Slot (SLOT#04 BROUGH 28N-17HZ (775'FSL & 1043'FEL,SEC.17))	5005.00ft
MD Reference Pt	PD 564 (26') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.89°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#04 BUROUGH 28N-17HZ (775'FSL & 1043'FEL, SEC.17)
Area	COLORADO	Well	BUROUGH 28N-17HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUROUGH 28N-17HZ AWP
Facility	SEC.17-T1N-R66W		

WELLPATH DATA (185 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	194.050	0.00	0.00	0.00	0.00	1697720.19	14543612.19	40°02'46.216"N	104°47'42.878"W	0.00	
26.00	0.000	194.050	26.00	0.00	0.00	0.00	1697720.19	14543612.19	40°02'46.216"N	104°47'42.878"W	0.00	
138.00	0.620	194.050	138.00	-0.59	-0.59	-0.15	1697720.05	14543611.60	40°02'46.210"N	104°47'42.880"W	0.55	FIRST SURFACE MWD+IFR1 SURVEY
170.00	0.220	197.650	170.00	-0.81	-0.81	-0.21	1697719.99	14543611.37	40°02'46.208"N	104°47'42.881"W	1.25	
202.00	0.830	225.250	202.00	-1.04	-1.04	-0.39	1697719.80	14543611.15	40°02'46.206"N	104°47'42.883"W	2.01	
233.00	1.490	219.800	232.99	-1.50	-1.50	-0.81	1697719.39	14543610.68	40°02'46.201"N	104°47'42.888"W	2.16	
265.00	1.450	238.790	264.98	-2.03	-2.03	-1.42	1697718.78	14543610.15	40°02'46.196"N	104°47'42.896"W	1.52	
296.00	1.930	237.550	295.96	-2.51	-2.52	-2.20	1697718.00	14543609.67	40°02'46.191"N	104°47'42.906"W	1.55	
327.00	1.760	230.700	326.95	-3.09	-3.10	-3.01	1697717.19	14543609.08	40°02'46.185"N	104°47'42.917"W	0.90	
359.00	2.420	230.700	358.93	-3.83	-3.84	-3.91	1697716.29	14543608.34	40°02'46.178"N	104°47'42.928"W	2.06	
390.00	3.030	236.240	389.89	-4.70	-4.71	-5.10	1697715.11	14543607.47	40°02'46.169"N	104°47'42.944"W	2.14	
422.00	3.740	236.150	421.84	-5.75	-5.76	-6.67	1697713.54	14543606.42	40°02'46.159"N	104°47'42.964"W	2.22	
454.00	4.040	235.180	453.76	-6.97	-6.98	-8.46	1697711.75	14543605.19	40°02'46.147"N	104°47'42.987"W	0.96	
485.00	4.350	235.000	484.68	-8.26	-8.28	-10.32	1697709.90	14543603.89	40°02'46.134"N	104°47'43.011"W	1.00	
517.00	5.100	236.060	516.57	-9.75	-9.77	-12.49	1697707.73	14543602.39	40°02'46.119"N	104°47'43.039"W	2.36	
548.00	5.670	238.080	547.43	-11.32	-11.35	-14.94	1697705.29	14543600.81	40°02'46.104"N	104°47'43.070"W	1.94	
580.00	6.330	240.450	579.26	-13.02	-13.06	-17.81	1697702.42	14543599.10	40°02'46.087"N	104°47'43.107"W	2.20	
613.00	6.550	241.330	612.05	-14.82	-14.86	-21.05	1697699.19	14543597.29	40°02'46.069"N	104°47'43.149"W	0.73	
644.00	7.030	239.050	642.83	-16.63	-16.68	-24.22	1697696.02	14543595.46	40°02'46.051"N	104°47'43.189"W	1.78	
676.00	7.600	241.330	674.57	-18.65	-18.70	-27.76	1697692.49	14543593.43	40°02'46.031"N	104°47'43.235"W	2.00	
708.00	8.350	238.080	706.26	-20.89	-20.95	-31.59	1697688.66	14543591.18	40°02'46.009"N	104°47'43.284"W	2.73	
740.00	9.230	237.120	737.89	-23.50	-23.57	-35.72	1697684.54	14543588.55	40°02'45.983"N	104°47'43.337"W	2.79	
771.00	9.400	237.910	768.48	-26.19	-26.26	-39.95	1697680.32	14543585.84	40°02'45.956"N	104°47'43.392"W	0.69	
803.00	10.110	237.730	800.01	-29.06	-29.15	-44.54	1697675.74	14543582.95	40°02'45.928"N	104°47'43.451"W	2.22	
835.00	10.850	237.910	831.48	-32.15	-32.25	-49.46	1697670.82	14543579.84	40°02'45.897"N	104°47'43.514"W	2.31	
867.00	11.560	236.850	862.87	-35.50	-35.60	-54.70	1697665.59	14543576.47	40°02'45.864"N	104°47'43.581"W	2.31	
930.00	12.660	236.590	924.47	-42.73	-42.86	-65.75	1697654.57	14543569.20	40°02'45.792"N	104°47'43.723"W	1.75	
962.00	13.540	238.080	955.63	-46.63	-46.77	-71.86	1697648.47	14543565.27	40°02'45.754"N	104°47'43.802"W	2.95	
994.00	14.460	238.780	986.68	-50.67	-50.82	-78.45	1697641.89	14543561.21	40°02'45.714"N	104°47'43.887"W	2.92	
1025.00	14.630	239.580	1016.69	-54.64	-54.81	-85.14	1697635.21	14543557.21	40°02'45.674"N	104°47'43.973"W	0.85	
1057.00	14.940	238.780	1047.63	-58.81	-58.99	-92.15	1697628.21	14543553.01	40°02'45.633"N	104°47'44.063"W	1.16	
1089.00	15.690	237.550	1078.49	-63.26	-63.45	-99.33	1697621.05	14543548.53	40°02'45.589"N	104°47'44.155"W	2.55	
1120.00	15.860	237.470	1108.33	-67.77	-67.98	-106.44	1697613.95	14543543.99	40°02'45.544"N	104°47'44.247"W	0.55	
1152.00	16.570	239.310	1139.05	-72.44	-72.66	-114.05	1697606.36	14543539.30	40°02'45.498"N	104°47'44.344"W	2.74	
1184.00	16.660	238.610	1169.72	-77.14	-77.38	-121.89	1697598.53	14543534.56	40°02'45.451"N	104°47'44.445"W	0.69	
1216.00	17.180	237.640	1200.33	-82.05	-82.30	-129.80	1697590.64	14543529.63	40°02'45.403"N	104°47'44.547"W	1.85	
1247.00	17.310	239.140	1229.94	-86.85	-87.11	-137.62	1697582.82	14543524.79	40°02'45.355"N	104°47'44.648"W	1.49	
1279.00	18.240	239.660	1260.41	-91.80	-92.09	-146.03	1697574.43	14543519.80	40°02'45.306"N	104°47'44.756"W	2.95	
1311.00	18.810	240.370	1290.75	-96.87	-97.17	-154.84	1697565.64	14543514.71	40°02'45.256"N	104°47'44.869"W	1.92	
1343.00	19.640	240.280	1320.97	-102.06	-102.38	-163.99	1697556.50	14543509.47	40°02'45.204"N	104°47'44.987"W	2.60	
1374.00	19.560	240.370	1350.17	-107.20	-107.53	-173.03	1697547.48	14543504.30	40°02'45.153"N	104°47'45.103"W	0.28	
1406.00	18.980	240.540	1380.38	-112.38	-112.74	-182.22	1697538.31	14543499.08	40°02'45.102"N	104°47'45.221"W	1.82	
1438.00	19.030	239.580	1410.63	-117.57	-117.94	-191.24	1697529.29	14543493.86	40°02'45.050"N	104°47'45.337"W	0.99	
1469.00	19.340	238.870	1439.91	-122.76	-123.15	-200.00	1697520.56	14543488.63	40°02'44.999"N	104°47'45.450"W	1.25	
1501.00	19.290	237.380	1470.11	-128.34	-128.74	-208.98	1697511.59	14543483.02	40°02'44.944"N	104°47'45.565"W	1.55	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#04 BUROUGH 28N-17HZ (775'FSL & 1043'FEL,SEC.17)
Area	COLORADO	Well	BUROUGH 28N-17HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUROUGH 28N-17HZ AWP
Facility	SEC.17-T1N-R66W		

WELLPATH DATA (185 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
1533.00	19.070	237.200	1500.34	-134.00	-134.42	-217.83	1697502.76	14543477.32	40°02'44.888"N	104°47'45.679"W	0.71	
1564.00	19.640	236.500	1529.58	-139.60	-140.04	-226.43	1697494.17	14543471.68	40°02'44.832"N	104°47'45.790"W	1.99	
1596.00	19.510	237.120	1559.73	-145.45	-145.91	-235.40	1697485.22	14543465.80	40°02'44.774"N	104°47'45.905"W	0.77	
1628.00	19.780	239.660	1589.87	-151.07	-151.55	-244.56	1697476.07	14543460.14	40°02'44.718"N	104°47'46.023"W	2.80	
1659.00	19.820	239.140	1619.04	-156.40	-156.89	-253.60	1697467.05	14543454.78	40°02'44.666"N	104°47'46.139"W	0.58	
1691.00	20.000	238.430	1649.13	-162.03	-162.54	-262.92	1697457.75	14543449.11	40°02'44.610"N	104°47'46.259"W	0.94	
1723.00	20.170	237.550	1679.18	-167.84	-168.36	-272.24	1697448.45	14543443.27	40°02'44.552"N	104°47'46.379"W	1.08	
1755.00	20.430	236.500	1709.19	-173.86	-174.41	-281.55	1697439.15	14543437.21	40°02'44.492"N	104°47'46.498"W	1.40	
1787.00	20.790	237.030	1739.15	-180.02	-180.58	-290.98	1697429.75	14543431.01	40°02'44.431"N	104°47'46.619"W	1.27	
1818.00	20.520	237.640	1768.15	-185.90	-186.48	-300.18	1697420.56	14543425.09	40°02'44.373"N	104°47'46.738"W	1.11	
1845.00	20.350	237.730	1793.45	-190.92	-191.52	-308.15	1697412.61	14543420.04	40°02'44.323"N	104°47'46.840"W	0.64	LAST SURFACE MWD+IFR1 SURVEY
1934.00	20.180	238.340	1876.94	-207.19	-207.84	-334.30	1697386.50	14543403.66	40°02'44.162"N	104°47'47.176"W	0.30	FIRST BHGE MWD+IFR1+SC SURVEY
2023.00	22.600	234.940	1959.81	-225.02	-225.73	-361.37	1697359.49	14543385.72	40°02'43.985"N	104°47'47.525"W	3.05	
2113.00	23.970	231.820	2042.48	-246.21	-246.96	-389.90	1697331.02	14543364.43	40°02'43.775"N	104°47'47.891"W	2.05	
2203.00	24.080	230.070	2124.69	-269.24	-270.05	-418.35	1697302.63	14543341.29	40°02'43.547"N	104°47'48.257"W	0.80	
2292.00	24.720	232.250	2205.74	-292.23	-293.09	-446.99	1697274.06	14543318.18	40°02'43.320"N	104°47'48.625"W	1.24	
2382.00	24.600	233.140	2287.53	-314.93	-315.85	-476.85	1697244.26	14543295.37	40°02'43.095"N	104°47'49.009"W	0.43	
2471.00	23.400	232.490	2368.83	-336.75	-337.73	-505.69	1697215.48	14543273.44	40°02'42.878"N	104°47'49.380"W	1.38	
2560.00	23.750	232.440	2450.41	-358.38	-359.41	-533.92	1697187.31	14543251.69	40°02'42.664"N	104°47'49.743"W	0.39	
2650.00	25.240	236.660	2532.31	-379.92	-381.01	-564.32	1697156.97	14543230.03	40°02'42.451"N	104°47'50.134"W	2.55	
2739.00	23.830	235.860	2613.27	-400.38	-401.53	-595.06	1697126.30	14543209.45	40°02'42.248"N	104°47'50.529"W	1.63	
2829.00	23.600	234.000	2695.67	-421.11	-422.32	-624.68	1697096.73	14543188.60	40°02'42.042"N	104°47'50.910"W	0.87	
2918.00	23.830	230.670	2777.16	-442.93	-444.19	-653.00	1697068.47	14543166.67	40°02'41.826"N	104°47'51.274"W	1.53	
3007.00	23.850	230.990	2858.57	-465.59	-466.91	-680.89	1697040.65	14543143.90	40°02'41.602"N	104°47'51.633"W	0.15	
3097.00	23.500	233.010	2940.99	-487.79	-489.16	-709.36	1697012.24	14543121.59	40°02'41.382"N	104°47'51.999"W	0.98	
3186.00	24.510	231.130	3022.30	-509.99	-511.42	-737.91	1696983.75	14543099.27	40°02'41.162"N	104°47'52.366"W	1.42	
3276.00	24.710	230.700	3104.12	-533.57	-535.05	-767.00	1696954.73	14543075.59	40°02'40.928"N	104°47'52.740"W	0.30	
3365.00	24.940	232.410	3184.90	-556.74	-558.28	-796.27	1696925.53	14543052.30	40°02'40.699"N	104°47'53.116"W	0.85	
3455.00	22.570	231.880	3267.27	-578.92	-580.52	-824.89	1696896.96	14543030.00	40°02'40.479"N	104°47'53.484"W	2.64	
3544.00	23.070	233.280	3349.30	-599.84	-601.49	-852.31	1696869.61	14543008.98	40°02'40.272"N	104°47'53.837"W	0.83	
3634.00	23.950	232.600	3431.83	-621.42	-623.13	-880.95	1696841.02	14542987.28	40°02'40.058"N	104°47'54.205"W	1.02	
3724.00	23.920	233.020	3514.09	-643.44	-645.20	-910.04	1696812.00	14542965.15	40°02'39.840"N	104°47'54.579"W	0.19	
3813.00	23.790	232.990	3595.49	-665.04	-666.86	-938.79	1696783.31	14542943.44	40°02'39.626"N	104°47'54.949"W	0.15	
3903.00	24.460	230.850	3677.63	-687.68	-689.55	-967.74	1696754.43	14542920.69	40°02'39.401"N	104°47'55.321"W	1.22	
3992.00	24.320	231.410	3758.69	-710.69	-712.62	-996.35	1696725.88	14542897.57	40°02'39.174"N	104°47'55.689"W	0.30	
4082.00	25.190	231.380	3840.41	-734.14	-736.13	-1025.80	1696696.50	14542873.99	40°02'38.941"N	104°47'56.068"W	0.97	
4172.00	23.850	229.560	3922.30	-757.85	-759.89	-1054.61	1696667.75	14542850.18	40°02'38.706"N	104°47'56.438"W	1.71	
4261.00	23.620	230.910	4003.77	-780.71	-782.80	-1082.15	1696640.28	14542827.21	40°02'38.480"N	104°47'56.792"W	0.66	
4351.00	23.860	232.820	4086.16	-803.02	-805.17	-1110.64	1696611.84	14542804.79	40°02'38.259"N	104°47'57.159"W	0.89	
4440.00	25.230	232.830	4167.11	-825.30	-827.51	-1140.10	1696582.45	14542782.39	40°02'38.038"N	104°47'57.537"W	1.54	
4461.00†	25.157	232.633	4186.11	-830.70	-832.93	-1147.22	1696575.35	14542776.96	40°02'37.985"N	104°47'57.629"W	0.53	ENTER LANDBOX (58°FNL & 2190'FEL,SEC.20) 40.0438846 -104.7993413
4530.00	24.920	231.980	4248.63	-848.51	-850.78	-1170.32	1696552.29	14542759.06	40°02'37.808"N	104°47'57.926"W	0.53	
4619.00	23.930	228.390	4329.67	-871.99	-874.32	-1198.59	1696524.09	14542735.47	40°02'37.575"N	104°47'58.289"W	2.00	
4709.00	24.540	226.920	4411.74	-896.83	-899.20	-1225.89	1696496.86	14542710.53	40°02'37.330"N	104°47'58.640"W	0.95	
4798.00	23.970	229.660	4492.88	-921.10	-923.53	-1253.17	1696469.64	14542686.15	40°02'37.089"N	104°47'58.991"W	1.42	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#04 BUROUGH 28N-17HZ (775'FSL & 1043'FEL,SEC.17)
Area	COLORADO	Well	BUROUGH 28N-17HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUROUGH 28N-17HZ AWB
Facility	SEC.17-T1N-R66W		

WELLPATH DATA (185 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
4888.00	23.220	231.020	4575.36	-944.04	-946.53	-1280.90	1696441.98	14542663.10	40°02'36.862"N	104°47'59.348"W	1.03	
4977.00	24.520	229.560	4656.74	-967.01	-969.54	-1308.60	1696414.35	14542640.03	40°02'36.634"N	104°47'59.704"W	1.60	
5067.00	23.600	231.910	4738.93	-990.18	-992.77	-1336.99	1696386.02	14542616.74	40°02'36.405"N	104°48'00.069"W	1.48	
5156.00	24.830	231.980	4820.09	-1012.63	-1015.27	-1365.73	1696357.34	14542594.18	40°02'36.182"N	104°48'00.438"W	1.38	
5246.00	25.720	231.660	4901.48	-1036.32	-1039.03	-1395.94	1696327.20	14542570.37	40°02'35.948"N	104°48'00.827"W	1.00	
5335.00	26.290	233.470	4981.47	-1059.97	-1062.74	-1426.92	1696296.28	14542546.60	40°02'35.713"N	104°48'01.225"W	1.10	
5424.00	23.500	233.380	5062.19	-1082.24	-1085.06	-1457.01	1696266.26	14542524.21	40°02'35.493"N	104°48'01.612"W	3.14	
5514.00	21.100	233.530	5145.45	-1102.52	-1105.40	-1484.44	1696238.88	14542503.82	40°02'35.292"N	104°48'01.965"W	2.67	
5603.00	18.730	231.930	5229.12	-1120.81	-1123.73	-1508.58	1696214.80	14542485.44	40°02'35.111"N	104°48'02.275"W	2.73	
5692.00	16.710	230.770	5313.90	-1137.67	-1140.64	-1529.74	1696193.69	14542468.49	40°02'34.943"N	104°48'02.547"W	2.30	
5782.00	15.040	230.110	5400.46	-1153.31	-1156.31	-1548.72	1696174.75	14542452.78	40°02'34.789"N	104°48'02.791"W	1.87	
5872.00	12.180	229.730	5487.93	-1166.90	-1169.94	-1564.93	1696158.58	14542439.12	40°02'34.654"N	104°48'02.999"W	3.18	
5961.00	10.080	230.900	5575.25	-1177.86	-1180.92	-1578.14	1696145.40	14542428.11	40°02'34.545"N	104°48'03.169"W	2.37	
6051.00	8.320	230.790	5664.09	-1186.92	-1190.01	-1589.30	1696134.26	14542419.01	40°02'34.456"N	104°48'03.313"W	1.96	
6140.00	7.060	231.860	5752.28	-1194.35	-1197.45	-1598.59	1696124.99	14542411.54	40°02'34.382"N	104°48'03.432"W	1.42	
6230.00	6.040	231.470	5841.70	-1200.70	-1203.82	-1606.65	1696116.96	14542405.16	40°02'34.319"N	104°48'03.536"W	1.13	
6320.00	3.620	239.110	5931.37	-1205.10	-1208.23	-1612.79	1696110.83	14542400.74	40°02'34.275"N	104°48'03.615"W	2.78	
6409.00	1.740	255.660	6020.27	-1206.87	-1210.01	-1616.51	1696107.11	14542398.95	40°02'34.258"N	104°48'03.663"W	2.26	
6499.00	1.640	262.630	6110.23	-1207.37	-1210.51	-1619.11	1696104.51	14542398.44	40°02'34.253"N	104°48'03.696"W	0.25	
6588.00	1.630	278.720	6199.19	-1207.34	-1210.48	-1621.62	1696102.00	14542398.47	40°02'34.253"N	104°48'03.728"W	0.51	
6678.00	2.000	292.280	6289.15	-1206.54	-1209.69	-1624.34	1696099.28	14542399.25	40°02'34.261"N	104°48'03.763"W	0.63	
6767.00	1.550	281.160	6378.11	-1205.72	-1208.87	-1626.96	1696096.66	14542400.06	40°02'34.269"N	104°48'03.797"W	0.63	
6857.00	1.640	287.560	6468.07	-1205.09	-1208.25	-1629.38	1696094.24	14542400.68	40°02'34.275"N	104°48'03.828"W	0.22	
6903.00†	3.204	350.602	6514.04	-1203.62	-1206.78	-1630.22	1696093.40	14542402.15	40°02'34.290"N	104°48'03.839"W	6.22	KOP
6946.00	5.670	4.570	6556.91	-1200.31	-1203.47	-1630.25	1696093.36	14542405.45	40°02'34.322"N	104°48'03.839"W	6.22	
7036.00	16.940	5.680	6645.02	-1182.78	-1185.94	-1628.59	1696094.98	14542422.98	40°02'34.496"N	104°48'03.818"W	12.52	
7125.00	22.030	3.720	6728.89	-1153.21	-1156.36	-1626.22	1696097.28	14542452.55	40°02'34.788"N	104°48'03.787"W	5.77	
7215.00	30.570	10.000	6809.52	-1113.75	-1116.90	-1621.14	1696102.27	14542492.01	40°02'35.178"N	104°48'03.722"W	9.97	
7304.00	37.370	3.020	6883.31	-1064.43	-1067.56	-1615.78	1696107.51	14542541.34	40°02'35.666"N	104°48'03.653"W	8.80	
7394.00	41.910	0.610	6952.61	-1007.07	-1010.19	-1614.02	1696109.14	14542598.69	40°02'36.232"N	104°48'03.631"W	5.33	
7483.00	47.440	0.550	7015.87	-944.52	-947.65	-1613.39	1696109.63	14542661.21	40°02'36.851"N	104°48'03.623"W	6.21	
7573.00	52.810	0.100	7073.55	-875.48	-878.60	-1613.01	1696109.85	14542730.23	40°02'37.533"N	104°48'03.618"W	5.98	
7662.00	57.450	359.430	7124.42	-802.48	-805.61	-1613.32	1696109.37	14542803.20	40°02'38.254"N	104°48'03.622"W	5.25	
7751.00	60.100	0.310	7170.55	-726.38	-729.51	-1613.48	1696109.03	14542879.27	40°02'39.006"N	104°48'03.624"W	3.10	
7841.00	65.320	359.640	7211.80	-646.42	-649.55	-1613.53	1696108.80	14542959.19	40°02'39.796"N	104°48'03.625"W	5.84	
7930.00	71.240	359.560	7244.72	-563.78	-566.91	-1614.11	1696108.03	14543041.80	40°02'40.613"N	104°48'03.632"W	6.65	
8020.00	86.110	358.270	7262.35	-475.80	-478.93	-1615.80	1696106.14	14543129.74	40°02'41.483"N	104°48'03.654"W	16.58	LANDING (296'FSL & 2659'FEL,SEC.17) 40.0448563 -104.8010150
8109.00	87.750	358.700	7267.12	-386.95	-390.09	-1618.15	1696103.59	14543218.54	40°02'42.361"N	104°48'03.684"W	1.90	
8173.00†	87.970	358.337	7269.51	-323.02	-326.16	-1619.80	1696101.79	14543282.44	40°02'42.992"N	104°48'03.706"W	0.66	EXIT RADIUS HEEL (449'FSL & 2663'FEL,SEC.17) 40.0452756 -104.8010293
8199.00	88.060	358.190	7270.41	-297.04	-300.18	-1620.59	1696100.94	14543308.40	40°02'43.249"N	104°48'03.716"W	0.66	
8288.00	88.060	1.070	7273.42	-208.10	-211.25	-1621.17	1696100.16	14543397.30	40°02'44.128"N	104°48'03.723"W	3.23	
8378.00	88.150	0.850	7276.40	-118.17	-121.31	-1619.66	1696101.46	14543487.21	40°02'45.017"N	104°48'03.704"W	0.26	
8467.00	88.180	0.870	7279.25	-29.23	-32.36	-1618.32	1696102.59	14543576.12	40°02'45.896"N	104°48'03.687"W	0.04	
8557.00	88.060	1.110	7282.20	60.71	57.58	-1616.77	1696103.94	14543666.02	40°02'46.784"N	104°48'03.667"W	0.30	
8646.00	87.970	0.840	7285.28	149.64	146.51	-1615.26	1696105.25	14543754.93	40°02'47.663"N	104°48'03.648"W	0.32	

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)		Slot	SLOT#04 BUROUGH 28N-17HZ (775'FSL & 1043'FEL,SEC.17)
Area	COLORADO		Well	BUROUGH 28N-17HZ
Field	WELD COUNTY (UTM/TRUE NORTH)		Wellbore	BUROUGH 28N-17HZ AWP
Facility	SEC.17-T1N-R66W			

WELLPATH DATA (185 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
8736.00	89.690	358.700	7287.12	239.61	236.48	-1615.62	1696104.68	14543844.86	40°02'48.552"N	104°48'03.652"W	3.05	
8825.00	90.000	358.730	7287.36	328.59	325.46	-1617.61	1696102.48	14543933.80	40°02'49.432"N	104°48'03.678"W	0.35	
8915.00	89.510	359.810	7287.74	418.58	415.45	-1618.76	1696101.13	14544023.75	40°02'50.321"N	104°48'03.693"W	1.32	
9004.00	89.690	359.310	7288.37	507.58	504.44	-1619.44	1696100.24	14544112.71	40°02'51.201"N	104°48'03.702"W	0.60	
9093.00	90.280	359.950	7288.39	596.58	593.44	-1620.02	1696099.46	14544201.67	40°02'52.080"N	104°48'03.709"W	0.98	
9183.00	89.320	359.990	7288.70	686.58	683.44	-1620.06	1696099.21	14544291.63	40°02'52.969"N	104°48'03.710"W	1.07	
9272.00	90.710	0.250	7288.68	775.57	772.44	-1619.88	1696099.19	14544380.59	40°02'53.849"N	104°48'03.708"W	1.59	
9361.00	88.030	0.250	7289.66	864.56	861.42	-1619.49	1696099.37	14544469.54	40°02'54.728"N	104°48'03.703"W	3.01	
9451.00	88.000	0.760	7292.78	954.50	951.36	-1618.70	1696099.96	14544559.45	40°02'55.617"N	104°48'03.692"W	0.57	
9540.00	87.970	0.860	7295.91	1043.43	1040.30	-1617.44	1696101.01	14544648.35	40°02'56.496"N	104°48'03.676"W	0.12	
9630.00	87.600	0.480	7299.38	1133.36	1130.23	-1616.39	1696101.85	14544738.25	40°02'57.385"N	104°48'03.663"W	0.59	
9719.00	89.450	0.580	7301.67	1222.32	1219.19	-1615.57	1696102.47	14544827.18	40°02'58.264"N	104°48'03.652"W	2.08	
9809.00	89.780	0.930	7302.28	1312.30	1309.18	-1614.38	1696103.45	14544917.13	40°02'59.153"N	104°48'03.637"W	0.53	
9898.00	89.940	1.240	7302.50	1401.28	1398.16	-1612.69	1696104.93	14545006.08	40°03'00.032"N	104°48'03.616"W	0.39	
9988.00	89.660	0.560	7302.81	1491.27	1488.15	-1611.28	1696106.14	14545096.04	40°03'00.922"N	104°48'03.598"W	0.82	
10077.00	89.850	0.100	7303.19	1580.27	1577.15	-1610.77	1696106.44	14545185.00	40°03'01.801"N	104°48'03.591"W	0.56	
10167.00	90.620	0.590	7302.82	1670.26	1667.14	-1610.23	1696106.78	14545274.96	40°03'02.691"N	104°48'03.584"W	1.01	
10257.00	90.920	0.280	7301.61	1760.25	1757.13	-1609.54	1696107.26	14545364.92	40°03'03.580"N	104°48'03.575"W	0.48	
10346.00	91.080	0.050	7300.06	1849.23	1846.12	-1609.29	1696107.31	14545453.87	40°03'04.459"N	104°48'03.572"W	0.31	
10436.00	89.010	0.359	7299.99	1939.23	1936.11	-1609.29	1696107.09	14545543.83	40°03'05.349"N	104°48'03.572"W	2.30	
10525.00	88.980	0.359	7301.55	2028.21	2025.10	-1609.61	1696106.57	14545632.78	40°03'06.228"N	104°48'03.577"W	0.33	
10615.00	88.860	0.360	7303.25	2118.20	2115.08	-1609.60	1696106.37	14545722.73	40°03'07.117"N	104°48'03.577"W	0.80	
10704.00	88.710	0.460	7305.13	2207.17	2204.06	-1608.97	1696106.80	14545811.67	40°03'07.997"N	104°48'03.568"W	0.20	
10794.00	88.400	0.740	7307.40	2297.14	2294.03	-1608.03	1696107.54	14545901.60	40°03'08.886"N	104°48'03.556"W	0.46	
10884.00	88.270	0.870	7310.02	2387.09	2383.98	-1606.76	1696108.59	14545991.52	40°03'09.775"N	104°48'03.540"W	0.20	
10973.00	89.540	0.359	7311.72	2476.07	2472.96	-1606.31	1696108.84	14546080.47	40°03'10.654"N	104°48'03.534"W	1.93	
11063.00	89.410	0.359	7312.54	2566.06	2562.95	-1606.98	1696107.97	14546170.42	40°03'11.543"N	104°48'03.543"W	0.33	
11152.00	89.140	0.359	7313.67	2655.05	2651.94	-1607.69	1696107.05	14546259.37	40°03'12.423"N	104°48'03.552"W	0.38	
11242.00	88.950	0.359	7315.17	2745.04	2741.93	-1608.14	1696106.39	14546349.32	40°03'13.312"N	104°48'03.558"W	0.27	
11331.00	88.980	0.359	7316.78	2834.03	2830.91	-1608.45	1696105.88	14546438.27	40°03'14.191"N	104°48'03.562"W	0.04	
11420.00	88.890	0.380	7318.43	2923.01	2919.90	-1608.30	1696105.82	14546527.22	40°03'15.071"N	104°48'03.560"W	0.65	
11510.00	89.050	0.358	7320.05	3012.99	3009.88	-1608.91	1696105.01	14546617.16	40°03'15.960"N	104°48'03.568"W	1.71	
11599.00	89.260	0.358	7321.36	3101.97	3098.85	-1610.67	1696103.04	14546706.10	40°03'16.839"N	104°48'03.591"W	0.24	
11688.00	88.950	0.358	7322.75	3190.94	3187.82	-1612.53	1696100.98	14546795.03	40°03'17.718"N	104°48'03.615"W	0.39	
11778.00	90.830	0.359	7322.92	3280.92	3277.80	-1614.31	1696098.99	14546884.96	40°03'18.607"N	104°48'03.638"W	2.11	
11868.00	90.430	0.358	7321.94	3370.90	3367.78	-1616.03	1696097.07	14546974.90	40°03'19.497"N	104°48'03.660"W	0.49	
11957.00	90.520	0.359	7321.20	3459.89	3456.76	-1617.54	1696095.36	14547063.85	40°03'20.376"N	104°48'03.680"W	0.50	
12047.00	90.090	0.359	7320.72	3549.88	3546.75	-1618.86	1696093.82	14547153.80	40°03'21.265"N	104°48'03.697"W	0.52	
12136.00	89.480	0.358	7321.05	3638.86	3635.73	-1620.67	1696091.82	14547242.74	40°03'22.145"N	104°48'03.720"W	0.85	
12226.00	90.000	0.358	7321.46	3728.84	3725.70	-1622.79	1696089.48	14547332.67	40°03'23.034"N	104°48'03.747"W	0.58	
12315.00	90.890	0.359	7320.77	3817.83	3814.69	-1624.42	1696087.66	14547421.61	40°03'23.913"N	104°48'03.768"W	1.19	
12405.00	91.080	0.358	7319.22	3907.80	3904.66	-1625.97	1696085.90	14547511.55	40°03'24.802"N	104°48'03.789"W	0.55	
12494.00	90.400	0.359	7318.07	3996.79	3993.64	-1627.21	1696084.45	14547600.49	40°03'25.682"N	104°48'03.805"W	1.21	
12516.00†	90.454	0.359	7317.91	4018.79	4015.64	-1627.38	1696084.24	14547622.48	40°03'25.899"N	104°48'03.807"W	0.43	ENTER RADIUS TOE (460'FNL & 2631'FWL,SEC.17) 40.0571942 - 104.8010574
12584.00	90.620	0.359	7317.27	4086.78	4083.63	-1628.06	1696083.40	14547690.44	40°03'26.571"N	104°48'03.816"W	0.43	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#04 BUROUGH 28N-17HZ (775'FSL & 1043'FEL,SEC.17)
Area	COLORADO	Well	BUROUGH 28N-17HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUROUGH 28N-17HZ AWB
Facility	SEC.17-T1N-R66W		

WELLPATH DATA (185 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
12674.00	89.410	0.010	7317.25	4176.78	4173.63	-1628.60	1696082.65	14547780.40	40°03'27.460"N	104°48'03.823"W	1.56	
12763.00	88.830	359.910	7318.62	4265.77	4262.62	-1628.67	1696082.38	14547869.36	40°03'28.340"N	104°48'03.823"W	0.66	
12853.00	88.680	359.910	7320.57	4355.74	4352.60	-1628.81	1696082.03	14547959.30	40°03'29.229"N	104°48'03.825"W	0.17	
12880.00	88.710	359.550	7321.19	4382.74	4379.59	-1628.94	1696081.84	14547986.28	40°03'29.496"N	104°48'03.827"W	1.34	LAST BHGE MWD+IFR1+SC SURVEY
12926.00	88.710	359.550	7322.22	4428.73	4425.58	-1629.30	1696081.38	14548032.25	40°03'29.950"N	104°48'03.832"W	0.00	PTB (50'FNL & 2630'FWL,SEC.17) 40.0583195 -104.8010644

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.17-T1N-R66W	0.00	0.00	0.00	1697720.19	14543612.19	40°02'46.216"N	104°47'42.878"W	polygon
BUROUGH 28N-17HZ HEEL REV-1(410'FSL & 2652'FWL,SEC.17)	7283.00	-375.21	-1618.03	1696103.67	14543233.41	40°02'42.508"N	104°48'03.683"W	point
BUROUGH 28N-17HZ HEEL REV-2(310'FSL & 2652'FWL,SEC.17)	7283.00	-475.21	-1618.03	1696103.90	14543133.45	40°02'41.519"N	104°48'03.683"W	point
BUROUGH 28N-17HZ BHL REV-1(50'FNL & 2631'FWL,SEC.17)	7325.00	4426.14	-1627.52	1696083.15	14548032.81	40°03'29.956"N	104°48'03.809"W	point
BUROUGH 28N-17HZ LANDBOX	7325.00	0.00	0.00	1697720.19	14543612.19	40°02'46.216"N	104°47'42.878"W	polygon
BUROUGH 28N-17HZ RADIUS 1	7325.00	-785.71	-1608.84	1696113.80	14548223.10	40°02'38.451"N	104°48'03.564"W	polygon
BUROUGH 28N-17HZ RADIUS 2	7325.00	4476.22	-1616.85	1696093.70	14548082.90	40°03'30.451"N	104°48'03.672"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: BUROUGH 28N-17HZ AWB					Ref Wellpath: BUROUGH 28N-17HZ AWP		
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment		Wellbore	
26.00	1845.00	Custom APC	ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC	ISCWSA Rev-2 MWD+IFR1 <138 - 1845>	BUROUGH 28N-17HZ AWB	
1845.00	12880.00	Custom APC	ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHGE Custom APC	ISCWSA Rev-2 MWD+IFR1+SC <1934 - 12880>	BUROUGH 28N-17HZ AWB	
12880.00	12926.00	Blind Drilling (std)		Projection to bit		BUROUGH 28N-17HZ AWB	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#04 BROUGH 28N-17HZ (775'FSL & 1043'FEL,SEC.17)
Area	COLORADO	Well	BROUGH 28N-17HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BROUGH 28N-17HZ AWP
Facility	SEC.17-T1N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
138.00	0.620	194.050	138.00	FIRST SURFACE MWD+IFR1 SURVEY
1845.00	20.350	237.730	1793.45	LAST SURFACE MWD+IFR1 SURVEY
1934.00	20.180	238.340	1876.94	FIRST BHGE MWD+IFR1+SC SURVEY
4461.00	25.157	232.633	4186.11	ENTER LANDBOX (58'FNL & 2190'FEL, SEC.20) 40.0438846 -104.7993413
6903.00	3.204	350.602	6514.04	KOP
8020.00	86.110	358.270	7262.35	LANDING (296'FSL & 2659'FEL, SEC.17) 40.0448563 -104.8010150
8173.00	87.970	358.337	7269.51	EXIT RADIUS HEEL (449'FSL & 2663'FEL, SEC.17) 40.0452756 -104.8010293
12516.00	90.454	359.542	7317.91	ENTER RADIUS TOE (460'FNL & 2631'FWL, SEC.17) 40.0571942 -104.8010574
12880.00	88.710	359.550	7321.19	LAST BHGE MWD+IFR1+SC SURVEY
12926.00	88.710	359.550	7322.22	PTB (50'FNL & 2630'FWL, SEC.17) 40.0583195 -104.8010644