

Actual Wellpath Report

AZUL 13-4HZ AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 AZUL 13-4HZ (920'FSL & 1219'FWL,SEC.13)
Area	COLORADO	Well	AZUL 13-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	AZUL 13-4HZ AWB
Facility	SEC.13-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	0.999607	Report Generated	4/12/2018 at 1:26 PM
Convergence at slot	0.18° East	Database/Source file	WA_DEN_Anadarko_Defn/AZUL_13-4HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-4157.91	-1671.13	1715812.60	14543794.69	40°02'47.544"N	104°43'50.142"W
Facility Reference Pt			1717470.20	14547956.10	40°03'28.634"N	104°43'28.654"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	5088.00ft
Horizontal Reference Pt	Slot	Xtreme 22 (17') (RT) to Mean Sea Level	5088.00ft
Vertical Reference Pt	Xtreme 22 (17') (RT)	Xtreme 22 (17') (RT) to Mud Line at Slot (SLOT#21 AZUL 13-4HZ (920'FSL & 1219'FWL,SEC.13))	5088.00ft
MD Reference Pt	Xtreme 22 (17') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	180.02°

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Facility	SEC.13-T1N-R66W		

WELLPATH DATA (184 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	175.360	0.00	0.00	0.00	0.00	1715812.59	14543794.69	40°02'47.544"N	104°43'50.142"W	0.00	
17.00	0.000	175.360	17.00	0.00	0.00	0.00	1715812.59	14543794.69	40°02'47.544"N	104°43'50.142"W	0.00	
125.00	0.480	175.360	125.00	0.45	-0.45	0.04	1715812.63	14543794.24	40°02'47.540"N	104°43'50.142"W	0.44	FIRST SURFACE MWD+IFR1 SURVEY
157.00	0.620	135.980	157.00	0.71	-0.71	0.17	1715812.76	14543793.98	40°02'47.537"N	104°43'50.140"W	1.23	
188.00	0.880	168.590	187.99	1.06	-1.06	0.33	1715812.93	14543793.62	40°02'47.533"N	104°43'50.138"W	1.58	
220.00	0.920	147.410	219.99	1.52	-1.52	0.52	1715813.12	14543793.17	40°02'47.529"N	104°43'50.135"W	1.04	
251.00	0.880	174.300	250.99	1.97	-1.97	0.68	1715813.28	14543792.72	40°02'47.525"N	104°43'50.133"W	1.36	
283.00	0.310	160.940	282.99	2.29	-2.29	0.73	1715813.33	14543792.40	40°02'47.521"N	104°43'50.133"W	1.82	
314.00	0.530	191.970	313.98	2.51	-2.51	0.73	1715813.33	14543792.18	40°02'47.519"N	104°43'50.133"W	1.00	
346.00	0.220	213.410	345.98	2.71	-2.71	0.66	1715813.26	14543791.98	40°02'47.517"N	104°43'50.133"W	1.05	
377.00	0.040	226.680	376.98	2.77	-2.77	0.62	1715813.22	14543791.92	40°02'47.517"N	104°43'50.134"W	0.58	
409.00	0.260	287.590	408.98	2.75	-2.75	0.54	1715813.15	14543791.94	40°02'47.517"N	104°43'50.135"W	0.76	
441.00	0.180	255.690	440.98	2.74	-2.74	0.43	1715813.03	14543791.95	40°02'47.517"N	104°43'50.137"W	0.45	
472.00	0.350	239.340	471.98	2.80	-2.80	0.30	1715812.90	14543791.89	40°02'47.516"N	104°43'50.138"W	0.59	
504.00	0.440	323.100	503.98	2.75	-2.75	0.14	1715812.74	14543791.93	40°02'47.517"N	104°43'50.140"W	1.66	
535.00	0.620	297.000	534.98	2.58	-2.58	-0.08	1715812.52	14543792.10	40°02'47.518"N	104°43'50.143"W	0.96	
567.00	0.260	235.740	566.98	2.55	-2.54	-0.30	1715812.31	14543792.14	40°02'47.519"N	104°43'50.146"W	1.70	
599.00	0.920	245.840	598.98	2.69	-2.69	-0.59	1715812.01	14543791.99	40°02'47.517"N	104°43'50.150"W	2.08	
631.00	1.540	228.790	630.97	3.08	-3.08	-1.15	1715811.46	14543791.60	40°02'47.514"N	104°43'50.157"W	2.23	
663.00	2.500	218.770	662.95	3.91	-3.91	-1.91	1715810.70	14543790.78	40°02'47.505"N	104°43'50.167"W	3.19	
695.00	2.720	217.280	694.92	5.06	-5.06	-2.81	1715809.81	14543789.62	40°02'47.494"N	104°43'50.178"W	0.72	
726.00	2.810	219.560	725.88	6.23	-6.23	-3.73	1715808.88	14543788.45	40°02'47.482"N	104°43'50.190"W	0.46	
758.00	3.160	224.400	757.84	7.46	-7.46	-4.85	1715807.77	14543787.21	40°02'47.470"N	104°43'50.204"W	1.35	
790.00	3.300	221.230	789.79	8.79	-8.78	-6.08	1715806.55	14543785.89	40°02'47.457"N	104°43'50.220"W	0.71	
822.00	3.470	217.020	821.73	10.25	-10.25	-7.27	1715805.36	14543784.42	40°02'47.443"N	104°43'50.235"W	0.94	
854.00	3.820	207.350	853.67	11.97	-11.97	-8.34	1715804.30	14543782.70	40°02'47.426"N	104°43'50.249"W	2.21	
885.00	4.610	209.190	884.58	13.98	-13.97	-9.42	1715803.22	14543780.69	40°02'47.406"N	104°43'50.263"W	2.59	
917.00	4.970	216.930	916.47	16.21	-16.21	-10.88	1715801.77	14543778.45	40°02'47.384"N	104°43'50.282"W	2.31	
949.00	5.410	210.510	948.34	18.62	-18.61	-12.48	1715800.18	14543776.04	40°02'47.360"N	104°43'50.302"W	2.27	
980.00	6.900	211.570	979.16	21.46	-21.46	-14.20	1715798.47	14543773.19	40°02'47.332"N	104°43'50.325"W	4.82	
1012.00	8.130	213.850	1010.89	24.98	-24.98	-16.46	1715796.21	14543769.67	40°02'47.297"N	104°43'50.354"W	3.95	
1044.00	8.700	211.650	1042.54	28.92	-28.92	-18.99	1715793.70	14543765.73	40°02'47.258"N	104°43'50.386"W	2.05	
1076.00	9.360	211.830	1074.14	33.19	-33.19	-21.64	1715791.07	14543761.45	40°02'47.216"N	104°43'50.420"W	2.06	
1107.00	9.840	215.700	1104.71	37.49	-37.48	-24.51	1715788.21	14543757.15	40°02'47.174"N	104°43'50.457"W	2.59	
1128.00	10.102	216.578	1125.39	40.43	-40.42	-26.66	1715786.07	14543754.21	40°02'47.145"N	104°43'50.485"W	1.44	ENTER LANDBOX (880'FSL & 1192'FWL,SEC.13) 40.0464291 -104.7306902
1139.00	10.240	217.020	1136.22	41.98	-41.97	-27.82	1715784.91	14543752.65	40°02'47.129"N	104°43'50.500"W	1.44	
1171.00	10.990	217.630	1167.67	46.67	-46.66	-31.39	1715781.35	14543747.95	40°02'47.083"N	104°43'50.546"W	2.37	
1202.00	11.030	213.680	1198.10	51.48	-51.47	-34.84	1715777.92	14543743.14	40°02'47.035"N	104°43'50.590"W	2.44	
1234.00	11.470	212.090	1229.49	56.72	-56.71	-38.23	1715774.55	14543737.88	40°02'46.984"N	104°43'50.634"W	1.68	
1266.00	11.870	212.530	1260.83	62.19	-62.18	-41.69	1715771.11	14543732.41	40°02'46.930"N	104°43'50.678"W	1.28	
1298.00	12.080	211.650	1292.13	67.82	-67.80	-45.22	1715767.60	14543726.77	40°02'46.874"N	104°43'50.723"W	0.87	
1330.00	12.960	213.850	1323.37	73.65	-73.63	-48.97	1715763.86	14543720.93	40°02'46.816"N	104°43'50.772"W	3.13	
1361.00	13.230	214.380	1353.56	79.47	-79.45	-52.91	1715759.94	14543715.11	40°02'46.759"N	104°43'50.822"W	0.95	
1393.00	12.300	212.270	1384.77	85.37	-85.35	-56.80	1715756.07	14543709.19	40°02'46.701"N	104°43'50.872"W	3.25	
1425.00	12.480	209.020	1416.03	91.28	-91.26	-60.30	1715752.60	14543703.28	40°02'46.642"N	104°43'50.917"W	2.25	

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Area	COLORADO	Well	AZUL 13-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	AZUL 13-4HZ AWB
Facility	SEC.13-T1N-R66W		

WELLPATH DATA (184 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
1456.00	13.270	209.720	1446.25	97.30	-97.28	-63.69	1715749.23	14543697.25	40°02'46.583"N	104°43'50.961"W	2.60	
1488.00	13.620	211.300	1477.37	103.71	-103.69	-67.46	1715745.47	14543690.84	40°02'46.519"N	104°43'51.009"W	1.59	
1519.00	12.830	214.470	1507.55	109.67	-109.64	-71.31	1715741.65	14543684.87	40°02'46.460"N	104°43'51.059"W	3.46	
1551.00	12.130	213.500	1538.79	115.40	-115.38	-75.18	1715737.80	14543679.13	40°02'46.404"N	104°43'51.109"W	2.28	
1583.00	12.080	213.940	1570.08	120.99	-120.96	-78.90	1715734.09	14543673.54	40°02'46.349"N	104°43'51.157"W	0.33	
1615.00	11.160	212.620	1601.42	126.37	-126.34	-82.44	1715730.57	14543668.14	40°02'46.295"N	104°43'51.202"W	2.99	
1646.00	10.940	209.190	1631.85	131.47	-131.44	-85.49	1715727.53	14543663.04	40°02'46.245"N	104°43'51.241"W	2.24	
1678.00	11.380	210.780	1663.24	136.84	-136.80	-88.59	1715724.46	14543657.67	40°02'46.192"N	104°43'51.281"W	1.68	
1710.00	11.730	211.040	1694.60	142.34	-142.30	-91.88	1715721.18	14543652.16	40°02'46.138"N	104°43'51.323"W	1.11	
1742.00	12.170	212.970	1725.90	147.95	-147.92	-95.39	1715717.69	14543646.54	40°02'46.082"N	104°43'51.369"W	1.86	
1773.00	11.820	214.990	1756.23	153.30	-153.26	-98.99	1715714.10	14543641.19	40°02'46.029"N	104°43'51.415"W	1.76	
1805.00	11.690	217.810	1787.55	158.55	-158.51	-102.86	1715710.26	14543635.93	40°02'45.978"N	104°43'51.465"W	1.84	LAST SURFACE MWD+IFR1 SURVEY
1889.00	11.600	217.320	1869.83	171.99	-171.95	-113.20	1715699.96	14543622.47	40°02'45.845"N	104°43'51.598"W	0.16	FIRST BHGE MWD+IFR1+SC SURVEY
1977.00	12.060	229.270	1955.97	185.03	-184.98	-125.53	1715687.68	14543609.40	40°02'45.716"N	104°43'51.756"W	2.83	
2065.00	11.770	227.320	2042.07	197.12	-197.07	-139.09	1715674.15	14543597.28	40°02'45.597"N	104°43'51.931"W	0.56	
2152.00	11.650	225.840	2127.26	209.26	-209.20	-151.92	1715661.37	14543585.11	40°02'45.477"N	104°43'52.095"W	0.37	
2240.00	9.630	228.910	2213.75	220.29	-220.23	-163.84	1715649.48	14543574.05	40°02'45.368"N	104°43'52.249"W	2.38	
2328.00	8.260	223.640	2300.68	229.71	-229.64	-173.75	1715639.61	14543564.61	40°02'45.275"N	104°43'52.376"W	1.81	
2416.00	6.800	232.990	2387.92	237.42	-237.35	-182.28	1715631.11	14543556.88	40°02'45.198"N	104°43'52.486"W	2.16	
2504.00	4.500	235.610	2475.48	242.51	-242.44	-189.29	1715624.12	14543551.77	40°02'45.148"N	104°43'52.576"W	2.63	
2591.00	2.380	243.010	2562.32	245.26	-245.19	-193.71	1715619.70	14543549.01	40°02'45.121"N	104°43'52.633"W	2.48	
2679.00	0.960	184.680	2650.29	246.82	-246.75	-195.40	1715618.02	14543547.44	40°02'45.106"N	104°43'52.655"W	2.33	
2766.00	0.950	183.040	2737.28	248.27	-248.20	-195.50	1715617.92	14543545.99	40°02'45.091"N	104°43'52.656"W	0.03	
2854.00	1.250	86.750	2825.27	248.95	-248.87	-194.58	1715618.85	14543545.32	40°02'45.085"N	104°43'52.644"W	1.88	
2941.00	1.240	95.060	2912.25	248.97	-248.90	-192.69	1715620.73	14543545.30	40°02'45.084"N	104°43'52.620"W	0.21	
3029.00	1.210	85.170	3000.23	248.98	-248.91	-190.82	1715622.60	14543545.30	40°02'45.084"N	104°43'52.596"W	0.24	
3117.00	1.310	90.930	3088.20	248.92	-248.85	-188.89	1715624.54	14543545.37	40°02'45.085"N	104°43'52.571"W	0.18	
3204.00	0.670	330.730	3175.20	248.49	-248.42	-188.14	1715625.28	14543545.80	40°02'45.089"N	104°43'52.561"W	2.01	
3291.00	0.520	332.420	3262.19	247.69	-247.63	-188.57	1715624.85	14543546.59	40°02'45.097"N	104°43'52.567"W	0.17	
3379.00	0.460	327.960	3350.19	247.04	-246.97	-188.95	1715624.47	14543547.24	40°02'45.103"N	104°43'52.572"W	0.08	
3466.00	0.640	334.860	3437.18	246.31	-246.24	-189.34	1715624.08	14543547.98	40°02'45.111"N	104°43'52.577"W	0.22	
3554.00	0.380	313.370	3525.18	245.66	-245.59	-189.76	1715623.65	14543548.62	40°02'45.117"N	104°43'52.582"W	0.36	
3641.00	0.560	356.720	3612.18	245.04	-244.97	-189.99	1715623.42	14543549.24	40°02'45.123"N	104°43'52.585"W	0.44	
3728.00	0.660	331.560	3699.17	244.17	-244.10	-190.26	1715623.15	14543550.11	40°02'45.132"N	104°43'52.588"W	0.33	
3816.00	0.380	337.100	3787.17	243.46	-243.39	-190.61	1715622.80	14543550.82	40°02'45.139"N	104°43'52.593"W	0.32	
3903.00	0.530	308.600	3874.17	242.94	-242.87	-191.04	1715622.37	14543551.33	40°02'45.144"N	104°43'52.598"W	0.31	
3991.00	0.410	325.640	3962.16	242.43	-242.36	-191.53	1715621.87	14543551.85	40°02'45.149"N	104°43'52.605"W	0.21	
4078.00	0.550	295.270	4049.16	241.99	-241.92	-192.09	1715621.32	14543552.28	40°02'45.153"N	104°43'52.612"W	0.33	
4165.00	0.500	305.800	4136.16	241.59	-241.52	-192.77	1715620.63	14543552.68	40°02'45.157"N	104°43'52.621"W	0.12	
4253.00	0.500	210.980	4224.16	241.70	-241.63	-193.28	1715620.12	14543552.57	40°02'45.156"N	104°43'52.627"W	0.84	
4340.00	0.280	208.950	4311.15	242.21	-242.14	-193.58	1715619.83	14543552.06	40°02'45.151"N	104°43'52.631"W	0.25	
4428.00	0.590	186.480	4399.15	242.85	-242.78	-193.73	1715619.67	14543551.42	40°02'45.145"N	104°43'52.633"W	0.40	
4515.00	0.220	167.210	4486.15	243.46	-243.39	-193.75	1715619.66	14543550.81	40°02'45.139"N	104°43'52.633"W	0.45	
4603.00	0.370	129.580	4574.15	243.80	-243.73	-193.49	1715619.92	14543550.47	40°02'45.135"N	104°43'52.630"W	0.27	
4690.00	0.510	123.820	4661.14	244.20	-244.13	-192.95	1715620.46	14543550.08	40°02'45.131"N	104°43'52.623"W	0.17	

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Area	COLORADO	Well	AZUL 13-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	AZUL 13-4HZ AWB
Facility	SEC.13-T1N-R66W		

WELLPATH DATA (184 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
4778.00	0.520	76.140	4749.14	244.32	-244.25	-192.24	1715621.17	14543549.95	40°02'45.130"N	104°43'52.614"W	0.47	
4865.00	0.530	80.520	4836.14	244.16	-244.09	-191.46	1715621.95	14543550.12	40°02'45.132"N	104°43'52.604"W	0.05	
4953.00	0.590	71.970	4924.13	243.95	-243.88	-190.63	1715622.78	14543550.33	40°02'45.134"N	104°43'52.593"W	0.12	
5040.00	0.550	51.580	5011.13	243.55	-243.48	-189.87	1715623.53	14543550.73	40°02'45.138"N	104°43'52.583"W	0.24	
5128.00	0.360	29.730	5099.13	243.05	-242.98	-189.41	1715624.00	14543551.23	40°02'45.143"N	104°43'52.577"W	0.29	
5215.00	0.640	357.500	5186.12	242.33	-242.26	-189.29	1715624.11	14543551.95	40°02'45.150"N	104°43'52.576"W	0.44	
5303.00	0.770	3.930	5274.12	241.24	-241.18	-189.27	1715624.13	14543553.04	40°02'45.161"N	104°43'52.576"W	0.17	
5390.00	0.650	11.660	5361.11	240.18	-240.11	-189.13	1715624.26	14543554.10	40°02'45.171"N	104°43'52.574"W	0.18	
5478.00	0.680	47.430	5449.10	239.34	-239.27	-188.65	1715624.75	14543554.94	40°02'45.180"N	104°43'52.568"W	0.47	
5565.00	0.680	86.050	5536.10	238.95	-238.88	-187.75	1715625.64	14543555.33	40°02'45.183"N	104°43'52.556"W	0.52	
5652.00	0.960	61.510	5623.09	238.57	-238.50	-186.60	1715626.79	14543555.72	40°02'45.187"N	104°43'52.541"W	0.51	
5740.00	1.370	71.870	5711.07	237.89	-237.82	-184.95	1715628.44	14543556.40	40°02'45.194"N	104°43'52.520"W	0.52	
5827.00	1.480	64.580	5798.05	237.08	-237.01	-182.95	1715630.44	14543557.21	40°02'45.202"N	104°43'52.494"W	0.24	
5914.00	0.770	78.340	5885.03	236.48	-236.41	-181.36	1715632.02	14543557.82	40°02'45.208"N	104°43'52.474"W	0.87	
6002.00	1.080	54.990	5973.02	235.88	-235.82	-180.10	1715633.28	14543558.42	40°02'45.214"N	104°43'52.458"W	0.55	
6090.00	1.410	43.810	6061.00	234.63	-234.56	-178.67	1715634.70	14543559.68	40°02'45.226"N	104°43'52.439"W	0.46	
6177.00	0.800	251.830	6147.99	234.04	-233.98	-178.51	1715634.87	14543560.26	40°02'45.232"N	104°43'52.437"W	2.47	
6265.00	0.710	252.650	6235.98	234.40	-234.33	-179.61	1715633.76	14543559.90	40°02'45.228"N	104°43'52.451"W	0.10	
6352.00	0.770	313.650	6322.98	234.16	-234.09	-180.55	1715632.83	14543560.14	40°02'45.231"N	104°43'52.464"W	0.87	
6440.00	0.820	347.700	6410.97	233.13	-233.07	-181.11	1715632.26	14543561.17	40°02'45.241"N	104°43'52.471"W	0.53	
6528.00	0.780	351.260	6498.96	231.93	-231.86	-181.34	1715632.03	14543562.37	40°02'45.253"N	104°43'52.474"W	0.07	
6615.00	1.180	213.280	6585.95	232.09	-232.02	-181.92	1715631.45	14543562.21	40°02'45.251"N	104°43'52.481"W	2.11	
6661.00†	3.626	192.685	6631.91	233.90	-233.84	-182.50	1715630.88	14543560.39	40°02'45.233"N	104°43'52.489"W	5.55	KOP
6703.00	5.940	189.020	6673.76	237.35	-237.28	-183.13	1715630.26	14543566.95	40°02'45.199"N	104°43'52.497"W	5.55	
6790.00	13.430	196.090	6759.46	251.52	-251.45	-186.64	1715626.79	14543542.77	40°02'45.059"N	104°43'52.542"W	8.70	
6877.00	19.040	187.980	6842.97	275.31	-275.24	-191.42	1715622.09	14543518.98	40°02'44.824"N	104°43'52.603"W	6.94	
6964.00	25.130	178.960	6923.57	307.87	-307.80	-193.05	1715620.55	14543486.42	40°02'44.502"N	104°43'52.624"W	7.99	
7052.00	31.230	176.480	7001.11	349.36	-349.29	-191.31	1715622.42	14543444.95	40°02'44.092"N	104°43'52.602"W	7.06	
7140.00	35.820	179.480	7074.45	397.91	-397.84	-189.68	1715624.20	14543396.43	40°02'43.612"N	104°43'52.581"W	5.54	
7227.00	41.890	181.220	7142.17	452.46	-452.39	-190.06	1715623.98	14543341.90	40°02'43.073"N	104°43'52.586"W	7.09	
7315.00	47.760	178.260	7204.57	514.45	-514.38	-189.70	1715624.53	14543279.93	40°02'42.461"N	104°43'52.581"W	7.08	
7402.00	52.740	174.610	7260.19	581.17	-581.10	-185.47	1715628.96	14543213.26	40°02'41.801"N	104°43'52.527"W	6.57	
7490.00	59.200	175.630	7309.42	653.79	-653.72	-179.29	1715635.35	14543140.68	40°02'41.084"N	104°43'52.447"W	7.40	
7578.00	65.530	176.640	7350.21	731.53	-731.47	-174.06	1715640.82	14543062.98	40°02'40.315"N	104°43'52.380"W	7.26	
7666.00	76.000	181.350	7379.18	814.46	-814.40	-172.71	1715642.41	14542980.09	40°02'39.496"N	104°43'52.363"W	12.92	
7753.00	88.370	182.950	7390.99	900.43	-900.36	-175.96	1715639.43	14542894.15	40°02'38.646"N	104°43'52.404"W	14.33	LANDING (20'FSL & 1043'FWL,SEC.13) 40.0440684 -104.7312235
7841.00	88.620	180.630	7393.30	988.35	-988.28	-178.70	1715636.95	14542806.26	40°02'37.778"N	104°43'52.440"W	2.65	
7928.00	89.480	181.090	7394.74	1075.33	-1075.26	-180.01	1715635.91	14542719.31	40°02'36.918"N	104°43'52.457"W	1.12	
8015.00	89.660	179.990	7395.39	1162.32	-1162.25	-180.83	1715635.35	14542632.35	40°02'36.058"N	104°43'52.467"W	1.28	
8103.00	88.090	179.800	7397.12	1250.30	-1250.23	-180.67	1715635.78	14542544.41	40°02'35.189"N	104°43'52.465"W	1.80	
8111.00†	88.289	179.742	7397.37	1258.29	-1258.23	-180.64	1715635.84	14542536.42	40°02'35.110"N	104°43'52.465"W	2.59	EXIT RADIUS HEEL (338'FNL & 1038'FWL,SEC.24) 40.0430861 -104.7312402
8190.00	90.250	179.170	7398.38	1337.28	-1337.21	-179.89	1715636.82	14542457.46	40°02'34.329"N	104°43'52.455"W	2.59	
8278.00	90.400	179.470	7397.88	1425.27	-1425.21	-178.84	1715638.13	14542369.51	40°02'33.460"N	104°43'52.441"W	0.38	
8366.00	90.430	178.970	7397.24	1513.26	-1513.20	-177.64	1715639.60	14542281.56	40°02'32.590"N	104°43'52.426"W	0.57	
8453.00	90.830	178.720	7396.29	1600.24	-1600.17	-175.89	1715641.61	14542194.62	40°02'31.731"N	104°43'52.404"W	0.54	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 AZUL 13-4HZ (920'FSL & 1219'FWL,SEC.13)
Area	COLORADO	Well	AZUL 13-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	AZUL 13-4HZ AWB
Facility	SEC.13-T1N-R66W		

WELLPATH DATA (184 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
8540.00	90.280	179.820	7395.44	1687.22	-1687.16	-174.78	1715642.98	14542107.67	40°02'30.871"N	104°43'52.389"W	1.41	
8628.00	89.230	178.990	7395.82	1775.22	-1775.15	-173.87	1715644.16	14542019.72	40°02'30.002"N	104°43'52.378"W	1.52	
8715.00	87.930	179.620	7397.98	1862.18	-1862.12	-172.81	1715645.48	14541932.79	40°02'29.142"N	104°43'52.364"W	1.66	
8803.00	89.540	180.660	7399.92	1950.15	-1950.09	-173.03	1715645.53	14541844.85	40°02'28.273"N	104°43'52.367"W	2.18	
8890.00	89.010	180.130	7401.02	2037.14	-2037.08	-173.63	1715645.20	14541757.90	40°02'27.413"N	104°43'52.374"W	0.86	
8978.00	88.710	180.070	7402.77	2125.13	-2125.06	-173.78	1715645.31	14541669.95	40°02'26.544"N	104°43'52.376"W	0.35	
9065.00	88.620	179.920	7404.80	2212.10	-2212.04	-173.77	1715645.58	14541583.01	40°02'25.684"N	104°43'52.376"W	0.20	
9153.00	88.860	180.010	7406.73	2300.08	-2300.02	-173.72	1715645.90	14541495.06	40°02'24.815"N	104°43'52.376"W	0.29	
9240.00	88.280	179.410	7408.90	2387.05	-2386.99	-173.28	1715646.60	14541408.13	40°02'23.955"N	104°43'52.370"W	0.96	
9328.00	88.980	180.980	7411.01	2475.02	-2474.96	-173.58	1715646.57	14541320.19	40°02'23.086"N	104°43'52.374"W	1.95	
9415.00	90.310	181.360	7411.55	2562.00	-2561.94	-175.36	1715645.06	14541233.24	40°02'22.226"N	104°43'52.397"W	1.59	
9503.00	90.800	180.740	7410.70	2649.98	-2649.92	-176.97	1715643.71	14541145.29	40°02'21.357"N	104°43'52.417"W	0.90	
9590.00	89.110	180.040	7410.76	2736.98	-2736.91	-177.56	1715643.38	14541058.33	40°02'20.497"N	104°43'52.425"W	2.10	
9677.00	90.000	179.900	7411.44	2823.97	-2823.91	-177.52	1715643.69	14540971.37	40°02'19.637"N	104°43'52.424"W	1.04	
9764.00	90.680	180.210	7410.92	2910.97	-2910.91	-177.60	1715643.87	14540884.41	40°02'18.778"N	104°43'52.425"W	0.86	
9852.00	91.510	179.710	7409.24	2998.95	-2998.89	-177.54	1715644.20	14540796.46	40°02'17.908"N	104°43'52.425"W	1.10	
9939.00	91.360	180.610	7407.06	3085.93	-3085.86	-177.78	1715644.22	14540709.52	40°02'17.049"N	104°43'52.428"W	1.05	
10027.00	90.520	180.510	7405.62	3173.91	-3173.84	-178.64	1715643.62	14540621.57	40°02'16.179"N	104°43'52.439"W	0.96	
10115.00	88.980	180.240	7406.00	3261.90	-3261.84	-179.22	1715643.31	14540533.61	40°02'15.310"N	104°43'52.446"W	1.78	
10202.00	90.520	181.670	7406.38	3348.89	-3348.82	-180.67	1715642.13	14540446.66	40°02'14.450"N	104°43'52.465"W	2.42	
10290.00	89.660	182.020	7406.24	3436.84	-3436.77	-183.50	1715639.56	14540358.73	40°02'13.581"N	104°43'52.501"W	1.06	
10378.00	89.720	182.190	7406.72	3524.78	-3524.71	-186.73	1715636.60	14540270.82	40°02'12.712"N	104°43'52.543"W	0.20	
10465.00	88.270	182.820	7408.25	3611.68	-3611.61	-190.53	1715633.06	14540183.94	40°02'11.853"N	104°43'52.592"W	1.82	
10553.00	89.940	180.950	7409.62	3699.62	-3699.55	-193.43	1715630.43	14540096.03	40°02'10.984"N	104°43'52.629"W	2.85	
10640.00	90.060	182.020	7409.62	3786.59	-3786.52	-195.68	1715628.44	14540009.09	40°02'10.125"N	104°43'52.658"W	1.24	
10728.00	90.000	178.170	7409.57	3874.57	-3874.50	-195.83	1715628.56	14539921.14	40°02'09.255"N	104°43'52.660"W	4.38	
10816.00	89.540	177.900	7409.93	3962.52	-3962.45	-192.81	1715631.84	14539833.24	40°02'08.386"N	104°43'52.621"W	0.61	
10903.00	89.850	178.150	7410.39	4049.47	-4049.40	-189.81	1715635.10	14539746.34	40°02'07.527"N	104°43'52.582"W	0.46	
10991.00	90.030	179.370	7410.48	4137.44	-4137.37	-187.91	1715637.27	14539658.40	40°02'06.657"N	104°43'52.558"W	1.40	
11078.00	90.430	180.530	7410.13	4224.44	-4224.37	-187.83	1715637.61	14539571.44	40°02'05.798"N	104°43'52.557"W	1.41	
11166.00	90.370	180.800	7409.52	4312.43	-4312.36	-188.85	1715636.86	14539483.48	40°02'04.928"N	104°43'52.570"W	0.31	
11253.00	91.910	180.740	7407.79	4399.40	-4399.34	-190.02	1715635.95	14539396.54	40°02'04.069"N	104°43'52.585"W	1.77	
11341.00	88.610	179.690	7407.39	4487.39	-4487.32	-190.35	1715635.89	14539308.59	40°02'03.199"N	104°43'52.589"W	3.94	
11375.00†	89.118	179.811	7408.06	4521.38	-4521.31	-190.20	1715636.14	14539274.61	40°02'02.863"N	104°43'52.587"W	1.54	ENTER RADIUS TOE (1673'FSL & 1031'FWL,SEC.24) 40.0341287 -104.7312742
11428.00	89.910	180.000	7408.51	4574.38	-4574.31	-190.12	1715636.39	14539221.63	40°02'02.339"N	104°43'52.586"W	1.54	
11516.00	89.750	179.840	7408.77	4662.38	-4662.31	-189.99	1715636.78	14539133.67	40°02'01.470"N	104°43'52.585"W	0.26	
11603.00	90.550	179.900	7408.55	4749.38	-4749.31	-189.80	1715637.24	14539046.70	40°02'00.610"N	104°43'52.582"W	0.92	
11691.00	90.000	178.690	7408.12	4837.37	-4837.30	-188.71	1715638.58	14538958.75	40°01'59.741"N	104°43'52.568"W	1.51	
11778.00	90.340	177.610	7407.87	4924.32	-4924.25	-185.91	1715641.66	14538871.84	40°01'58.881"N	104°43'52.532"W	1.30	
11866.00	90.400	177.090	7407.30	5012.22	-5012.16	-181.84	1715645.99	14538783.99	40°01'58.013"N	104°43'52.480"W	0.59	
11953.00	88.460	179.840	7408.16	5099.17	-5099.11	-179.51	1715648.58	14538697.08	40°01'57.153"N	104°43'52.450"W	3.87	
12041.00	89.720	180.560	7409.56	5187.16	-5187.09	-179.81	1715648.54	14538609.12	40°01'56.284"N	104°43'52.454"W	1.65	
12128.00	89.660	180.620	7410.03	5274.15	-5274.09	-180.71	1715647.91	14538522.16	40°01'55.424"N	104°43'52.465"W	0.10	
12216.00	90.710	180.970	7409.75	5362.14	-5362.08	-181.93	1715646.95	14538434.20	40°01'54.555"N	104°43'52.481"W	1.26	
12303.00	89.880	180.620	7409.30	5449.13	-5449.07	-183.14	1715646.01	14538347.24	40°01'53.695"N	104°43'52.496"W	1.04	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 AZUL 13-4HZ (920'FSL & 1219'FWL,SEC.13)
Area	COLORADO	Well	AZUL 13-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	AZUL 13-4HZ AWB
Facility	SEC.13-T1N-R66W		

WELLPATH DATA (184 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
12391.00	89.540	179.260	7409.74	5537.13	-5537.06	-183.05	1715646.37	14538259.28	40°01'52.825"N	104°43'52.495"W	1.59	
12479.00	88.800	179.700	7411.02	5625.12	-5625.05	-182.25	1715647.43	14538171.33	40°01'51.956"N	104°43'52.485"W	0.98	
12524.00	88.980	180.030	7411.89	5670.11	-5670.04	-182.14	1715647.67	14538126.36	40°01'51.511"N	104°43'52.483"W	0.84	LAST BHGE MWD+IFR1+SC SURVEY
12570.00	88.980	180.030	7412.71	5716.10	-5716.03	-182.17	1715647.79	14538080.39	40°01'51.057"N	104°43'52.484"W	0.00	PTB (478'FSL & 1040'FWL,SEC.24) 40.0308491 -104.7312455

HOLE & CASING SECTIONS - Ref Wellbore: AZUL 13-4HZ AWB Ref Wellpath: AZUL 13-4HZ AWP									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
9.625in Casing Surface	17.00	1853.00	1836.00	17.00	1834.56	0.00	0.00	-166.19	-108.79

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.13-T1N-R66W	0.00	0.71	-60.19	1715752.42	14543795.21	40°02'47.551"N	104°43'50.916"W	polygon
SEC.24-T1N-R66W	0.00	0.71	-60.19	1715752.42	14543795.21	40°02'47.551"N	104°43'50.916"W	polygon
AZUL 13-4HZ HEEL REV-1(50'FNL & 1005'FWL,SEC.24)	7395.00	-971.92	-217.27	1715598.35	14542822.49	40°02'37.939"N	104°43'52.936"W	point
AZUL 13-4HZ HEEL REV-2(50'FNL & 1035'FWL,SEC.24)	7395.00	-971.92	-187.27	1715628.34	14542822.58	40°02'37.939"N	104°43'52.550"W	point
AZUL 13-4HZ BHL REV-1(468'FSL & 1003'FWL,SEC.24)	7415.00	-5726.26	-218.99	1715611.01	14538070.05	40°01'50.956"N	104°43'52.957"W	point
AZUL 13-4HZ BHL REV-2(468'FSL & 1033'FWL,SEC.24)	7415.00	-5726.26	-188.99	1715641.00	14538070.14	40°01'50.956"N	104°43'52.572"W	point
AZUL 13-4HZ LANDBOX	7415.00	0.00	0.00	1715812.59	14543794.69	40°02'47.544"N	104°43'50.142"W	polygon
AZUL 13-4HZ RADIUS 1	7415.00	-902.18	110.92	1715926.20	14542893.20	40°02'38.628"N	104°43'48.716"W	polygon
AZUL 13-4HZ RADIUS 2	7415.00	-4873.05	104.81	1715932.10	14538923.90	40°01'59.387"N	104°43'48.795"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: AZUL 13-4HZ AWB Ref Wellpath: AZUL 13-4HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	1805.00	Custom APC_ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <125 - 1805>	AZUL 13-4HZ AWB
1805.00	12524.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+SC <1889 - 12524>	AZUL 13-4HZ AWB
12524.00	12570.00	Blind Drilling (std)	Projection to bit	AZUL 13-4HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 AZUL 13-4HZ (920'FSL & 1219'FWL,SEC.13)
Area	COLORADO	Well	AZUL 13-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	AZUL 13-4HZ AWB
Facility	SEC.13-T1N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
125.00	0.480	175.360	125.00	FIRST SURFACE MWD+IFR1 SURVEY
1128.00	10.102	216.578	1125.39	ENTER LANDBOX (880'FSL & 1192'FWL,SEC.13) 40.0464291 -104.7306902
1805.00	11.690	217.810	1787.55	LAST SURFACE MWD+IFR1 SURVEY
1889.00	11.600	217.320	1869.83	FIRST BHGE MWD+IFR1+SC SURVEY
6661.00	3.626	192.685	6631.91	KOP
7753.00	88.370	182.950	7390.99	LANDING (20'FSL & 1043'FWL,SEC.13) 40.0440684 -104.7312235
8111.00	88.289	179.742	7397.37	EXIT RADIUS HEEL (338'FNL & 1038'FWL,SEC.24) 40.0430861 -104.7312402
11375.00	89.118	179.811	7408.06	ENTER RADIUS TOE (1673'FSL & 1031'FWL,SEC.24) 40.0341287 -104.7312742
12524.00	88.980	180.030	7411.89	LAST BHGE MWD+IFR1+SC SURVEY
12570.00	88.980	180.030	7412.71	PTB (478'FSL & 1040'FWL,SEC.24) 40.0308491 -104.7312455