

Location:	COLORADO	SLOT:	SLOT#05 CASTLE PINES 19-5HZ(484FSL & 1078FEL,SEC.19)
Field:	WELD COUNTY (UTM/TRUE NORTH)	Well:	CASTLE PINES 19-5HZ
Facility:	SEC.19-T2N-R66W	Wellbore:	CASTLE PINES 19-5HZ PWB
Plot reference wellpath is CASTLE PINES 19-5HZ PWP Rev-B1		Grid System: NAD83 / UTM Zone 13 North, US feet	
True vertical depths are referenced to PD 564 (26) (RT)		* = Wellpath was transformed from a different geoidetic datum	
Measured depths are referenced to PD 564 (26) (RT)		North Reference: True north	
PD 564 (26) (RT) to Mean Sea Level: 4902 feet		Scale: True distance	
Mean Sea Level to Mad line (As Slot: SLOT#05 CASTLE PINES 19-5HZ(484FSL & 1078FEL,SEC.19): 0 feet		Depths are in feet	
Coordinates are in feet referenced to Slot		Created by: painseer on 2018-11-26	
		Database: WA_DEN_Anadarko_Defn	



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 CASTLE PINES 19-5HZ(484'FSL & 1078'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-5HZ AWB
Facility	SEC.19-T2N-R66W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999603	Report Generated	11/26/2018 at 1:08 PM
Convergence at slot	0.12° East	Database/Source file	WA_DEN_Anadarko_Defn/CASTLE_PINES_19-5HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-0.71	59.90	1692290.28	14569640.08	40°07'03.648"N	104°48'52.027"W
Facility Reference Pt			1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"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	4902.00ft
Horizontal Reference Pt	Slot	PD 564 (26') (RT) to Mean Sea Level	4902.00ft
Vertical Reference Pt	PD 564 (26') (RT)	PD 564 (26') (RT) to Mud Line at Slot (SLOT#05 CASTLE PINES 19-5HZ(484'FSL & 1078'FEL,SEC.19))	4902.00ft
MD Reference Pt	PD 564 (26') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.58°

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Area	COLORADO	Well	CASTLE PINES 19-5HZ
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Facility	SEC.19-T2N-R66W		

WELLPATH DATA (229 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	217.090	0.00	0.00	0.00	0.00	1692290.28	14569640.08	40°07'03.648°N	104°48'52.027°W	0.00	
26.00	0.000	217.090	26.00	0.00	0.00	0.00	1692290.28	14569640.08	40°07'03.648°N	104°48'52.027°W	0.00	
136.00	0.480	217.090	136.00	-0.37	-0.37	-0.28	1692290.00	14569639.71	40°07'03.644°N	104°48'52.031°W	0.44	FIRST SURFACE MWD+IFR1 SURVEY
168.00	0.440	199.250	168.00	-0.59	-0.59	-0.40	1692289.88	14569639.49	40°07'03.642°N	104°48'52.032°W	0.46	
199.00	0.700	219.910	199.00	-0.84	-0.85	-0.56	1692289.72	14569639.23	40°07'03.640°N	104°48'52.034°W	1.06	
231.00	0.830	213.930	230.99	-1.18	-1.19	-0.81	1692289.47	14569638.89	40°07'03.636°N	104°48'52.037°W	0.48	
263.00	0.480	200.830	262.99	-1.50	-1.51	-0.99	1692289.29	14569638.57	40°07'03.633°N	104°48'52.040°W	1.18	
358.00	0.310	13.450	357.99	-1.62	-1.63	-1.07	1692289.21	14569638.45	40°07'03.632°N	104°48'52.041°W	0.83	
390.00	0.000	220.430	389.99	-1.54	-1.55	-1.05	1692289.23	14569638.53	40°07'03.633°N	104°48'52.041°W	0.97	
422.00	0.220	323.440	421.99	-1.49	-1.50	-1.09	1692289.19	14569638.58	40°07'03.633°N	104°48'52.041°W	0.69	
454.00	0.400	24.090	453.99	-1.34	-1.35	-1.08	1692289.20	14569638.73	40°07'03.635°N	104°48'52.041°W	1.09	
486.00	0.130	98.090	485.99	-1.24	-1.25	-1.00	1692289.28	14569638.83	40°07'03.636°N	104°48'52.040°W	1.20	
517.00	0.790	278.090	516.99	-1.21	-1.22	-1.18	1692289.11	14569638.85	40°07'03.636°N	104°48'52.042°W	2.97	
549.00	1.450	274.750	548.98	-1.15	-1.16	-1.80	1692288.48	14569638.92	40°07'03.637°N	104°48'52.050°W	2.07	
581.00	1.890	272.550	580.97	-1.08	-1.10	-2.73	1692287.55	14569638.97	40°07'03.637°N	104°48'52.062°W	1.39	
612.00	2.590	264.470	611.94	-1.12	-1.15	-3.94	1692286.35	14569638.92	40°07'03.637°N	104°48'52.078°W	2.47	
644.00	3.340	260.600	643.90	-1.33	-1.37	-5.58	1692284.71	14569638.70	40°07'03.634°N	104°48'52.099°W	2.42	
676.00	4.220	255.410	675.83	-1.76	-1.82	-7.64	1692282.65	14569638.25	40°07'03.630°N	104°48'52.125°W	2.95	
707.00	5.100	251.990	706.73	-2.46	-2.53	-10.05	1692280.24	14569637.53	40°07'03.623°N	104°48'52.156°W	2.98	
739.00	5.980	248.820	738.58	-3.48	-3.57	-12.96	1692277.34	14569636.48	40°07'03.613°N	104°48'52.194°W	2.91	
771.00	6.460	248.120	770.39	-4.73	-4.85	-16.18	1692274.11	14569635.20	40°07'03.600°N	104°48'52.235°W	1.52	
803.00	6.940	247.150	802.17	-6.12	-6.27	-19.63	1692270.67	14569633.77	40°07'03.586°N	104°48'52.280°W	1.54	
834.00	7.690	244.250	832.92	-7.72	-7.90	-23.23	1692267.08	14569632.14	40°07'03.570°N	104°48'52.326°W	2.70	
866.00	8.220	242.850	864.61	-9.67	-9.87	-27.19	1692263.12	14569630.16	40°07'03.550°N	104°48'52.377°W	1.76	
898.00	8.390	242.670	896.28	-11.75	-11.99	-31.30	1692259.02	14569628.03	40°07'03.530°N	104°48'52.430°W	0.54	
930.00	9.010	243.640	927.91	-13.91	-14.17	-35.62	1692254.70	14569625.84	40°07'03.508°N	104°48'52.485°W	1.99	
961.00	9.930	243.720	958.49	-16.14	-16.43	-40.19	1692250.14	14569623.57	40°07'03.486°N	104°48'52.544°W	2.97	
993.00	10.810	244.690	989.96	-18.60	-18.94	-45.38	1692244.96	14569621.05	40°07'03.461°N	104°48'52.611°W	2.80	
1025.00	11.160	244.340	1021.38	-21.18	-21.56	-50.88	1692239.46	14569618.42	40°07'03.435°N	104°48'52.682°W	1.11	
1057.00	11.780	244.870	1052.74	-23.87	-24.29	-56.63	1692233.72	14569615.68	40°07'03.408°N	104°48'52.756°W	1.97	

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Area	COLORADO	Well	CASTLE PINES 19-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-5HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (229 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
1088.00	13.010	243.550	1083.01	-26.72	-27.19	-62.62	1692227.74	14569612.77	40°07'03.379"N	104°48'52.833"W	4.07	
1120.00	13.230	242.580	1114.18	-29.97	-30.48	-69.10	1692221.27	14569609.47	40°07'03.347"N	104°48'52.916"W	0.97	
1152.00	14.020	242.580	1145.28	-33.39	-33.95	-75.79	1692214.59	14569605.99	40°07'03.313"N	104°48'53.003"W	2.47	
1184.00	14.990	242.140	1176.26	-37.06	-37.67	-82.89	1692207.50	14569602.25	40°07'03.276"N	104°48'53.094"W	3.05	
1215.00	15.600	243.020	1206.16	-40.77	-41.43	-90.15	1692200.26	14569598.47	40°07'03.239"N	104°48'53.187"W	2.11	
1247.00	16.260	243.020	1236.93	-44.69	-45.42	-97.97	1692192.44	14569594.48	40°07'03.199"N	104°48'53.288"W	2.06	
1279.00	16.350	243.460	1267.64	-48.68	-49.46	-105.99	1692184.43	14569590.42	40°07'03.159"N	104°48'53.391"W	0.48	
1310.00	17.140	243.990	1297.33	-52.57	-53.41	-114.00	1692176.43	14569586.45	40°07'03.120"N	104°48'53.494"W	2.60	
1342.00	18.020	244.160	1327.83	-56.74	-57.64	-122.70	1692167.75	14569582.21	40°07'03.078"N	104°48'53.606"W	2.75	
1373.00	18.680	243.640	1357.26	-60.97	-61.93	-131.46	1692159.00	14569577.89	40°07'03.036"N	104°48'53.719"W	2.19	
1405.00	19.120	243.640	1387.53	-65.50	-66.54	-140.75	1692149.73	14569573.27	40°07'02.990"N	104°48'53.839"W	1.37	
1437.00	18.370	244.520	1417.83	-69.93	-71.03	-150.00	1692140.49	14569568.76	40°07'02.946"N	104°48'53.958"W	2.50	
1468.00	18.060	245.220	1447.28	-73.98	-75.15	-158.77	1692131.73	14569564.63	40°07'02.905"N	104°48'54.071"W	1.22	
1500.00	18.150	244.960	1477.70	-78.10	-79.34	-167.79	1692122.73	14569560.42	40°07'02.864"N	104°48'54.187"W	0.38	
1532.00	18.630	244.600	1508.06	-82.34	-83.64	-176.92	1692113.60	14569556.10	40°07'02.821"N	104°48'54.304"W	1.54	
1563.00	18.940	244.160	1537.41	-86.59	-87.95	-185.92	1692104.62	14569551.77	40°07'02.779"N	104°48'54.420"W	1.10	
1594.00	18.150	244.160	1566.80	-90.82	-92.25	-194.79	1692095.76	14569547.46	40°07'02.736"N	104°48'54.534"W	2.55	
1626.00	17.800	244.250	1597.24	-95.05	-96.55	-203.69	1692086.88	14569543.14	40°07'02.694"N	104°48'54.649"W	1.10	
1658.00	17.840	244.250	1627.70	-99.24	-100.80	-212.51	1692078.07	14569538.87	40°07'02.652"N	104°48'54.762"W	0.12	
1690.00	18.240	244.340	1658.13	-103.47	-105.10	-221.44	1692069.15	14569534.56	40°07'02.609"N	104°48'54.877"W	1.25	
1721.00	18.330	244.520	1687.57	-107.61	-109.30	-230.21	1692060.39	14569530.34	40°07'02.568"N	104°48'54.990"W	0.34	
1753.00	18.850	244.250	1717.90	-111.95	-113.71	-239.41	1692051.21	14569525.91	40°07'02.524"N	104°48'55.109"W	1.65	
1785.00	19.200	244.520	1748.15	-116.39	-118.22	-248.81	1692041.81	14569521.39	40°07'02.480"N	104°48'55.230"W	1.13	
1817.00	18.110	244.600	1778.47	-120.72	-122.62	-258.06	1692032.58	14569516.97	40°07'02.436"N	104°48'55.349"W	3.41	
1848.00	17.750	245.390	1807.96	-124.69	-126.65	-266.71	1692023.95	14569512.92	40°07'02.396"N	104°48'55.460"W	1.40	LAST SURFACE MWD+IFR1 SURVEY
1969.00	16.530	249.810	1923.59	-138.07	-140.27	-299.63	1691991.06	14569499.23	40°07'02.262"N	104°48'55.884"W	1.47	FIRST BHGE MWD+IFR1+MSA SURVEY
2059.00	17.730	252.840	2009.60	-146.35	-148.74	-324.74	1691965.98	14569490.72	40°07'02.178"N	104°48'56.207"W	1.66	
2148.00	17.780	253.600	2094.36	-153.99	-156.57	-350.73	1691940.02	14569482.84	40°07'02.101"N	104°48'56.541"W	0.27	
2238.00	17.650	254.820	2180.09	-161.25	-164.02	-377.08	1691913.69	14569475.33	40°07'02.027"N	104°48'56.881"W	0.44	
2327.00	15.740	256.150	2265.34	-167.49	-170.45	-401.82	1691888.97	14569468.86	40°07'01.964"N	104°48'57.199"W	2.19	

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Area	COLORADO	Well	CASTLE PINES 19-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-5HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (229 stations)												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2416.00	17.750	261.200	2350.56	-172.27	-175.41	-426.95	1691863.86	14569463.84	40°07'01.915"N	104°48'57.523"W	2.79	
2506.00	18.230	262.580	2436.16	-175.99	-179.33	-454.47	1691836.36	14569459.87	40°07'01.876"N	104°48'57.877"W	0.71	
2595.00	18.160	263.370	2520.71	-179.18	-182.73	-482.05	1691808.80	14569456.42	40°07'01.842"N	104°48'58.232"W	0.29	
2684.00	17.630	265.390	2605.41	-181.67	-185.41	-509.26	1691781.61	14569453.68	40°07'01.816"N	104°48'58.582"W	0.92	
2774.00	18.260	264.030	2691.03	-184.03	-187.98	-536.87	1691754.01	14569451.06	40°07'01.790"N	104°48'58.937"W	0.84	
2863.00	18.190	260.990	2775.57	-187.45	-191.60	-564.46	1691726.44	14569447.38	40°07'01.755"N	104°48'59.293"W	1.07	
2952.00	18.300	257.140	2860.09	-192.53	-196.89	-591.80	1691699.12	14569442.03	40°07'01.702"N	104°48'59.645"W	1.36	
3041.00	18.180	256.070	2944.62	-198.79	-203.34	-618.90	1691672.05	14569435.53	40°07'01.638"N	104°48'59.993"W	0.40	
3131.00	15.960	253.000	3030.65	-205.60	-210.34	-644.37	1691646.61	14569428.48	40°07'01.569"N	104°49'00.321"W	2.66	
3220.00	13.870	252.760	3116.65	-212.18	-217.08	-666.26	1691624.74	14569421.70	40°07'01.503"N	104°49'00.603"W	2.35	
3310.00	11.800	253.360	3204.40	-217.87	-222.91	-685.38	1691605.64	14569415.83	40°07'01.445"N	104°49'00.849"W	2.30	
3399.00	10.050	255.660	3291.78	-222.28	-227.44	-701.62	1691589.41	14569411.26	40°07'01.400"N	104°49'01.058"W	2.03	
3488.00	7.900	256.490	3379.69	-225.53	-230.79	-715.10	1691575.95	14569407.89	40°07'01.367"N	104°49'01.231"W	2.42	
3578.00	7.870	263.540	3468.84	-227.58	-232.93	-727.23	1691563.82	14569405.72	40°07'01.346"N	104°49'01.388"W	1.07	
3667.00	5.340	261.890	3557.24	-228.78	-234.20	-737.39	1691553.67	14569404.43	40°07'01.333"N	104°49'01.518"W	2.85	
3757.00	4.590	261.930	3646.90	-229.82	-235.30	-745.10	1691545.97	14569403.32	40°07'01.323"N	104°49'01.618"W	0.83	
3846.00	2.190	260.110	3735.74	-230.57	-236.09	-750.30	1691540.77	14569402.52	40°07'01.315"N	104°49'01.685"W	2.70	
3936.00	0.570	256.210	3825.71	-230.96	-236.49	-752.43	1691538.64	14569402.11	40°07'01.311"N	104°49'01.712"W	1.80	
4025.00	0.250	75.050	3914.71	-231.01	-236.55	-752.67	1691538.40	14569402.05	40°07'01.310"N	104°49'01.715"W	0.92	
4114.00	0.500	56.520	4003.71	-230.75	-236.28	-752.16	1691538.91	14569402.32	40°07'01.313"N	104°49'01.709"W	0.31	
4203.00	0.680	54.270	4092.70	-230.23	-235.76	-751.41	1691539.66	14569402.84	40°07'01.318"N	104°49'01.699"W	0.20	
4293.00	0.870	23.850	4182.69	-229.30	-234.82	-750.70	1691540.37	14569403.78	40°07'01.327"N	104°49'01.690"W	0.50	
4382.00	0.950	16.530	4271.68	-227.98	-233.50	-750.22	1691540.85	14569405.11	40°07'01.340"N	104°49'01.684"W	0.16	
4471.00	0.410	21.080	4360.68	-226.98	-232.49	-749.89	1691541.17	14569406.11	40°07'01.350"N	104°49'01.679"W	0.61	
4561.00	0.290	14.470	4450.68	-226.46	-231.97	-749.72	1691541.34	14569406.63	40°07'01.356"N	104°49'01.677"W	0.14	
4650.00	0.480	329.810	4539.67	-225.92	-231.43	-749.85	1691541.21	14569407.17	40°07'01.361"N	104°49'01.679"W	0.38	
4739.00	0.190	304.960	4628.67	-225.51	-231.03	-750.16	1691540.90	14569407.58	40°07'01.365"N	104°49'01.683"W	0.36	
4829.00	0.070	342.510	4718.67	-225.37	-230.89	-750.30	1691540.76	14569407.72	40°07'01.366"N	104°49'01.685"W	0.16	
4918.00	0.060	19.850	4807.67	-225.27	-230.79	-750.30	1691540.76	14569407.81	40°07'01.367"N	104°49'01.685"W	0.05	
5008.00	0.130	213.780	4897.67	-225.31	-230.83	-750.34	1691540.72	14569407.77	40°07'01.367"N	104°49'01.685"W	0.21	

REFERENCE WELLPATH IDENTIFICATION			
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Area	COLORADO	Well	CASTLE PINES 19-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-5HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (229 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
5097.00	0.170	327.380	4986.67	-225.28	-230.81	-750.47	1691540.59	14569407.80	40°07'01.367"N	104°49'01.687"W	0.28	
5186.00	0.160	317.280	5075.67	-225.08	-230.60	-750.62	1691540.44	14569408.00	40°07'01.369"N	104°49'01.689"W	0.03	
5276.00	0.170	278.200	5165.67	-224.97	-230.49	-750.84	1691540.22	14569408.11	40°07'01.370"N	104°49'01.692"W	0.12	
5365.00	0.190	301.440	5254.67	-224.87	-230.40	-751.10	1691539.96	14569408.21	40°07'01.371"N	104°49'01.695"W	0.08	
5454.00	0.150	342.850	5343.67	-224.68	-230.21	-751.26	1691539.80	14569408.40	40°07'01.373"N	104°49'01.697"W	0.14	
5543.00	0.110	333.740	5432.67	-224.49	-230.02	-751.33	1691539.73	14569408.58	40°07'01.375"N	104°49'01.698"W	0.05	
5632.00	0.190	312.790	5521.67	-224.31	-229.84	-751.48	1691539.59	14569408.76	40°07'01.377"N	104°49'01.700"W	0.11	
5721.00	0.070	311.820	5610.67	-224.18	-229.71	-751.62	1691539.44	14569408.90	40°07'01.378"N	104°49'01.702"W	0.13	
5810.00	0.180	348.530	5699.67	-224.00	-229.53	-751.69	1691539.37	14569409.07	40°07'01.380"N	104°49'01.703"W	0.15	
5900.00	0.370	11.370	5789.67	-223.58	-229.11	-751.66	1691539.40	14569409.49	40°07'01.384"N	104°49'01.702"W	0.24	
5989.00	0.150	4.830	5878.67	-223.18	-228.71	-751.60	1691539.46	14569409.89	40°07'01.388"N	104°49'01.701"W	0.25	
6079.00	0.060	28.700	5968.67	-223.02	-228.55	-751.56	1691539.49	14569410.05	40°07'01.389"N	104°49'01.701"W	0.11	
6168.00	0.070	343.160	6057.67	-222.93	-228.46	-751.56	1691539.50	14569410.14	40°07'01.390"N	104°49'01.701"W	0.06	
6257.00	0.100	308.030	6146.67	-222.83	-228.36	-751.63	1691539.42	14569410.24	40°07'01.391"N	104°49'01.702"W	0.07	
6347.00	0.170	356.900	6236.67	-222.65	-228.18	-751.70	1691539.35	14569410.42	40°07'01.393"N	104°49'01.703"W	0.14	
6436.00	0.100	59.760	6325.67	-222.48	-228.01	-751.64	1691539.41	14569410.59	40°07'01.395"N	104°49'01.702"W	0.17	
6525.00	0.070	38.360	6414.67	-222.40	-227.93	-751.54	1691539.51	14569410.68	40°07'01.395"N	104°49'01.701"W	0.05	
6614.00	0.180	48.660	6503.67	-222.26	-227.79	-751.40	1691539.65	14569410.81	40°07'01.397"N	104°49'01.699"W	0.13	
6704.00	0.130	90.540	6593.67	-222.17	-227.70	-751.20	1691539.86	14569410.90	40°07'01.398"N	104°49'01.696"W	0.13	
6771.00†	1.647	358.887	6660.66	-221.21	-226.74	-751.14	1691539.92	14569411.87	40°07'01.407"N	104°49'01.695"W	2.47	KOP
6793.00	2.190	357.770	6682.64	-220.47	-226.00	-751.16	1691539.89	14569412.60	40°07'01.415"N	104°49'01.696"W	2.47	
6882.00	9.380	355.840	6771.13	-211.53	-217.06	-751.75	1691539.28	14569421.54	40°07'01.503"N	104°49'01.703"W	8.08	
6971.00	17.570	352.360	6857.61	-190.93	-196.47	-754.07	1691536.92	14569442.11	40°07'01.706"N	104°49'01.733"W	9.24	
7060.00	27.900	350.320	6939.58	-156.96	-162.54	-759.37	1691531.55	14569476.02	40°07'02.042"N	104°49'01.801"W	11.64	
7150.00	37.670	354.210	7015.17	-108.67	-114.30	-765.70	1691525.12	14569524.23	40°07'02.518"N	104°49'01.883"W	11.10	
7239.00	48.280	358.490	7080.20	-48.20	-53.86	-769.33	1691521.37	14569584.64	40°07'03.116"N	104°49'01.930"W	12.36	
7278.00†	52.431	359.278	7105.08	-18.18	-23.84	-769.91	1691520.73	14569614.64	40°07'03.412"N	104°49'01.937"W	10.76	ENTER LANDBOX (460'FSL & 1848'FEL,SEC.19) 40.1176145 -104.8172047
7328.00	57.760	0.170	7133.68	22.81	17.15	-770.10	1691520.45	14569655.62	40°07'03.817"N	104°49'01.940"W	10.76	
7417.00	68.300	0.360	7173.99	102.01	96.36	-769.73	1691520.66	14569734.79	40°07'04.600"N	104°49'01.935"W	11.84	
7506.00	78.290	0.090	7199.54	187.14	181.50	-769.40	1691520.81	14569819.90	40°07'05.441"N	104°49'01.931"W	11.23	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 CASTLE PINES 19-5HZ(484'FSL & 1078'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-5HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (229 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
7595.00	89.200	0.080	7209.22	275.48	269.83	-769.27	1691520.76	14569908.20	40°07'06.314"N	104°49'01.929"W	12.26	LANDING (754'FSL & 1847'FEL,SEC.19) 40.1184207 -104.8172025
7684.00	91.320	0.270	7208.82	364.47	358.83	-768.99	1691520.85	14569997.15	40°07'07.194"N	104°49'01.925"W	2.39	
7774.00	90.680	0.060	7207.25	454.45	448.81	-768.73	1691520.92	14570087.10	40°07'08.083"N	104°49'01.922"W	0.75	
7863.00	90.830	358.850	7206.07	543.44	537.80	-769.58	1691519.89	14570176.05	40°07'08.962"N	104°49'01.933"W	1.37	
7952.00	90.740	358.720	7204.85	632.42	626.77	-771.47	1691517.81	14570264.99	40°07'09.842"N	104°49'01.957"W	0.18	
8131.00	90.680	359.120	7202.64	811.39	805.72	-774.84	1691514.07	14570443.86	40°07'11.610"N	104°49'02.001"W	0.23	
8220.00	90.860	358.390	7201.44	900.38	894.69	-776.77	1691511.95	14570532.79	40°07'12.489"N	104°49'02.026"W	0.84	
8309.00	89.750	358.470	7200.97	989.36	983.66	-779.21	1691509.33	14570621.71	40°07'13.369"N	104°49'02.057"W	1.25	
8398.00	89.820	358.830	7201.30	1078.34	1072.63	-781.31	1691507.05	14570710.65	40°07'14.248"N	104°49'02.084"W	0.41	
8487.00	89.910	358.960	7201.51	1167.34	1161.62	-783.03	1691505.14	14570799.59	40°07'15.127"N	104°49'02.106"W	0.18	
8576.00	89.820	359.300	7201.72	1256.33	1250.60	-784.38	1691503.61	14570888.54	40°07'16.007"N	104°49'02.124"W	0.40	
8618.00†	89.876	359.389	7201.83	1298.33	1292.60	-784.86	1691503.04	14570930.52	40°07'16.422"N	104°49'02.130"W	0.25	CROSS SETBACK HEEL (1777'FSL & 1863'FEL,SEC.19) 40.1212282 -104.8172583
8666.00	89.940	359.490	7201.91	1346.33	1340.60	-785.33	1691502.47	14570978.50	40°07'16.896"N	104°49'02.136"W	0.25	
8755.00	89.780	359.150	7202.13	1435.33	1429.59	-786.38	1691501.23	14571067.46	40°07'17.775"N	104°49'02.150"W	0.42	
8844.00	90.520	0.710	7201.89	1524.33	1518.59	-786.49	1691500.93	14571156.42	40°07'18.655"N	104°49'02.151"W	1.94	
8933.00	90.620	0.920	7201.01	1613.30	1607.58	-785.23	1691502.01	14571245.37	40°07'19.534"N	104°49'02.135"W	0.26	
9023.00	90.430	1.060	7200.18	1703.27	1697.56	-783.67	1691503.38	14571335.32	40°07'20.423"N	104°49'02.115"W	0.26	
9112.00	90.430	1.300	7199.51	1792.23	1786.54	-781.84	1691505.03	14571424.27	40°07'21.303"N	104°49'02.091"W	0.27	
9201.00	90.460	1.930	7198.82	1881.17	1875.50	-779.33	1691507.35	14571513.20	40°07'22.182"N	104°49'02.059"W	0.71	
9290.00	90.430	2.550	7198.13	1970.07	1964.43	-775.85	1691510.64	14571602.10	40°07'23.061"N	104°49'02.014"W	0.70	
9379.00	90.460	2.330	7197.44	2058.96	2053.34	-772.06	1691514.24	14571690.99	40°07'23.939"N	104°49'01.966"W	0.25	
9469.00	90.460	2.420	7196.72	2148.85	2143.26	-768.33	1691517.78	14571780.88	40°07'24.828"N	104°49'01.918"W	0.10	
9558.00	90.430	2.030	7196.03	2237.75	2232.19	-764.88	1691521.05	14571869.78	40°07'25.707"N	104°49'01.873"W	0.44	
9647.00	90.430	2.140	7195.36	2326.67	2321.13	-761.64	1691524.10	14571958.69	40°07'26.586"N	104°49'01.832"W	0.12	
9737.00	90.520	2.050	7194.61	2416.58	2411.07	-758.35	1691527.20	14572048.60	40°07'27.474"N	104°49'01.789"W	0.14	
9826.00	90.460	2.370	7193.85	2505.48	2500.00	-754.92	1691530.45	14572137.50	40°07'28.353"N	104°49'01.745"W	0.37	
9915.00	90.490	1.770	7193.11	2594.39	2588.94	-751.70	1691533.48	14572226.41	40°07'29.232"N	104°49'01.704"W	0.67	
10005.00	90.400	1.150	7192.41	2684.34	2678.91	-749.41	1691535.58	14572316.34	40°07'30.121"N	104°49'01.674"W	0.70	
10094.00	90.430	0.360	7191.77	2773.32	2767.89	-748.24	1691536.57	14572405.30	40°07'31.001"N	104°49'01.659"W	0.89	
10183.00	90.520	0.400	7191.03	2862.31	2856.89	-747.65	1691536.97	14572494.26	40°07'31.880"N	104°49'01.652"W	0.11	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 CASTLE PINES 19-5HZ(484'FSL & 1078'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-5HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (229 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
10273.00	90.520	0.130	7190.22	2952.30	2946.88	-747.23	1691537.20	14572584.22	40°07'32.769"N	104°49'01.646"W	0.30	
10362.00	90.460	359.660	7189.45	3041.29	3035.88	-747.40	1691536.85	14572673.18	40°07'33.649"N	104°49'01.648"W	0.53	
10451.00	90.520	359.450	7188.69	3130.29	3124.88	-748.09	1691535.97	14572762.14	40°07'34.528"N	104°49'01.657"W	0.25	
10541.00	90.520	359.240	7187.88	3220.28	3214.87	-749.12	1691534.76	14572852.09	40°07'35.418"N	104°49'01.671"W	0.23	
10720.00	90.490	358.860	7186.30	3399.27	3393.83	-752.08	1691531.42	14573030.98	40°07'37.186"N	104°49'01.709"W	0.21	
10809.00	90.520	357.900	7185.51	3488.24	3482.79	-754.60	1691528.72	14573119.90	40°07'38.065"N	104°49'01.741"W	1.08	
10898.00	89.820	357.230	7185.25	3577.19	3571.71	-758.38	1691524.75	14573208.77	40°07'38.944"N	104°49'01.790"W	1.09	
10988.00	89.780	357.310	7185.56	3667.11	3661.61	-762.67	1691520.28	14573298.63	40°07'39.832"N	104°49'01.845"W	0.10	
11077.00	89.750	357.270	7185.93	3756.04	3750.51	-766.88	1691515.89	14573387.48	40°07'40.711"N	104°49'01.900"W	0.06	
11166.00	89.750	357.310	7186.32	3844.97	3839.41	-771.08	1691511.50	14573476.34	40°07'41.589"N	104°49'01.954"W	0.04	
11256.00	89.750	356.730	7186.71	3934.88	3929.29	-775.76	1691506.63	14573566.17	40°07'42.478"N	104°49'02.014"W	0.64	
11345.00	89.690	356.310	7187.15	4023.75	4018.12	-781.16	1691501.05	14573654.96	40°07'43.355"N	104°49'02.084"W	0.48	
11435.00	89.780	356.540	7187.56	4113.61	4107.94	-786.78	1691495.25	14573744.73	40°07'44.243"N	104°49'02.156"W	0.27	
11524.00	89.780	357.810	7187.90	4202.53	4196.83	-791.16	1691490.68	14573833.58	40°07'45.121"N	104°49'02.212"W	1.43	
11614.00	89.820	358.280	7188.22	4292.50	4286.78	-794.23	1691487.42	14573923.48	40°07'46.010"N	104°49'02.252"W	0.52	
11703.00	89.820	359.220	7188.50	4381.49	4375.76	-796.17	1691485.30	14574012.42	40°07'46.890"N	104°49'02.277"W	1.06	
11793.00	89.720	0.110	7188.86	4471.49	4465.75	-796.70	1691484.58	14574102.38	40°07'47.779"N	104°49'02.284"W	1.00	
11882.00	89.570	0.700	7189.41	4560.48	4554.75	-796.07	1691485.03	14574191.34	40°07'48.658"N	104°49'02.276"W	0.68	
11972.00	89.230	1.730	7190.35	4650.43	4644.72	-794.16	1691486.75	14574281.28	40°07'49.548"N	104°49'02.251"W	1.21	
12061.00	89.140	1.190	7191.62	4739.38	4733.69	-791.90	1691488.83	14574370.21	40°07'50.427"N	104°49'02.222"W	0.62	
12151.00	89.200	1.430	7192.92	4829.33	4823.65	-789.84	1691490.70	14574460.15	40°07'51.316"N	104°49'02.196"W	0.27	
12240.00	89.080	1.220	7194.26	4918.27	4912.62	-787.78	1691492.57	14574549.08	40°07'52.195"N	104°49'02.169"W	0.27	
12330.00	89.170	1.010	7195.63	5008.23	5002.59	-786.03	1691494.13	14574639.02	40°07'53.084"N	104°49'02.147"W	0.25	
12419.00	89.080	1.190	7196.99	5097.19	5091.56	-784.32	1691495.65	14574727.96	40°07'53.963"N	104°49'02.125"W	0.23	
12509.00	89.170	1.600	7198.37	5187.13	5181.53	-782.13	1691497.65	14574817.89	40°07'54.852"N	104°49'02.096"W	0.47	
12598.00	89.910	1.670	7199.08	5276.07	5270.49	-779.59	1691500.01	14574906.82	40°07'55.731"N	104°49'02.064"W	0.84	
12688.00	89.850	0.560	7199.27	5366.04	5360.47	-777.84	1691501.57	14574996.77	40°07'56.621"N	104°49'02.041"W	1.24	
12777.00	89.910	0.140	7199.46	5455.03	5449.47	-777.30	1691501.93	14575085.74	40°07'57.500"N	104°49'02.034"W	0.48	
12867.00	89.880	359.660	7199.62	5545.03	5539.47	-777.45	1691501.58	14575175.70	40°07'58.389"N	104°49'02.036"W	0.53	
12956.00	90.150	359.140	7199.60	5634.03	5628.46	-778.39	1691500.47	14575264.66	40°07'59.269"N	104°49'02.048"W	0.66	



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 CASTLE PINES 19-5HZ(484'FSL & 1078'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-5HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (229 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
13046.00	90.090	359.080	7199.41	5724.02	5718.45	-779.78	1691498.88	14575354.61	40°08'00.158"N	104°49'02.066"W	0.09	
13135.00	90.120	359.340	7199.25	5813.02	5807.44	-781.01	1691497.47	14575443.56	40°08'01.038"N	104°49'02.082"W	0.29	
13225.00	90.150	358.890	7199.03	5903.02	5897.43	-782.40	1691495.89	14575533.51	40°08'01.927"N	104°49'02.100"W	0.50	
13314.00	90.120	357.880	7198.82	5992.00	5986.39	-784.91	1691493.20	14575622.43	40°08'02.806"N	104°49'02.133"W	1.14	
13404.00	90.090	358.020	7198.66	6081.96	6076.33	-788.13	1691489.79	14575712.33	40°08'03.695"N	104°49'02.174"W	0.16	
13493.00	90.090	358.430	7198.52	6170.94	6165.29	-790.88	1691486.85	14575801.25	40°08'04.574"N	104°49'02.210"W	0.46	
13582.00	90.090	358.770	7198.38	6259.92	6254.26	-793.06	1691484.49	14575890.18	40°08'05.453"N	104°49'02.238"W	0.38	
13672.00	90.150	359.300	7198.19	6349.92	6344.25	-794.57	1691482.79	14575980.13	40°08'06.342"N	104°49'02.257"W	0.59	
13761.00	90.090	359.570	7198.00	6438.92	6433.25	-795.45	1691481.73	14576069.08	40°08'07.222"N	104°49'02.268"W	0.31	
13851.00	90.220	359.780	7197.76	6528.92	6523.25	-795.96	1691481.03	14576159.05	40°08'08.111"N	104°49'02.275"W	0.27	
13940.00	90.180	0.170	7197.45	6617.91	6612.24	-796.00	1691480.80	14576248.01	40°08'08.991"N	104°49'02.276"W	0.44	
14029.00	90.090	0.770	7197.24	6706.90	6701.24	-795.27	1691481.35	14576336.97	40°08'09.870"N	104°49'02.266"W	0.68	
14119.00	90.060	1.380	7197.12	6796.87	6791.22	-793.58	1691482.85	14576426.92	40°08'10.759"N	104°49'02.245"W	0.68	
14208.00	89.940	1.310	7197.12	6885.83	6880.20	-791.49	1691484.75	14576515.87	40°08'11.639"N	104°49'02.218"W	0.16	
14297.00	89.880	0.510	7197.26	6974.80	6969.19	-790.08	1691485.98	14576604.82	40°08'12.518"N	104°49'02.200"W	0.90	
14387.00	89.940	359.390	7197.40	7064.80	7059.19	-790.16	1691485.71	14576694.78	40°08'13.407"N	104°49'02.201"W	1.25	
14476.00	89.940	358.770	7197.50	7153.80	7148.17	-791.59	1691484.10	14576783.73	40°08'14.287"N	104°49'02.219"W	0.70	
14565.00	89.910	359.520	7197.61	7242.79	7237.16	-792.92	1691482.59	14576872.68	40°08'15.166"N	104°49'02.236"W	0.84	
14655.00	89.940	359.240	7197.73	7332.79	7327.16	-793.89	1691481.42	14576962.64	40°08'16.056"N	104°49'02.249"W	0.31	
14834.00	89.880	358.340	7198.01	7511.77	7506.12	-797.67	1691477.27	14577141.52	40°08'17.824"N	104°49'02.297"W	0.50	
14923.00	90.060	359.160	7198.06	7600.76	7595.09	-799.61	1691475.15	14577230.46	40°08'18.703"N	104°49'02.323"W	0.94	
15013.00	90.030	359.960	7197.99	7690.76	7685.09	-800.30	1691474.27	14577320.42	40°08'19.593"N	104°49'02.331"W	0.89	
15102.00	90.060	0.530	7197.92	7779.76	7774.09	-799.92	1691474.46	14577409.38	40°08'20.472"N	104°49'02.327"W	0.64	
15192.00	89.910	1.420	7197.94	7869.73	7864.08	-798.39	1691475.81	14577499.33	40°08'21.361"N	104°49'02.307"W	1.00	
15282.00	90.920	2.220	7197.29	7959.66	7954.03	-795.53	1691478.47	14577589.25	40°08'22.250"N	104°49'02.270"W	1.43	
15372.00	90.860	1.950	7195.89	8049.56	8043.96	-792.26	1691481.56	14577679.15	40°08'23.139"N	104°49'02.228"W	0.31	
15461.00	90.920	1.970	7194.51	8138.47	8132.89	-789.21	1691484.42	14577768.06	40°08'24.018"N	104°49'02.189"W	0.07	
15550.00	90.860	2.260	7193.13	8227.37	8221.82	-785.93	1691487.51	14577856.96	40°08'24.897"N	104°49'02.147"W	0.33	
15640.00	90.950	2.020	7191.71	8317.27	8311.75	-782.57	1691490.69	14577946.86	40°08'25.785"N	104°49'02.103"W	0.28	
15729.00	90.830	0.740	7190.32	8406.22	8400.71	-780.43	1691492.64	14578035.79	40°08'26.665"N	104°49'02.076"W	1.44	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 CASTLE PINES 19-5HZ(484'FSL & 1078'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-5HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (229 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
15819.00	90.890	0.100	7188.97	8496.20	8490.70	-779.77	1691493.11	14578125.74	40°08'27.554"N	104°49'02.067"W	0.71	
15908.00	90.860	359.600	7187.61	8585.18	8579.68	-780.00	1691492.70	14578214.69	40°08'28.433"N	104°49'02.070"W	0.56	
15998.00	89.850	359.650	7187.06	8675.18	8669.68	-780.59	1691491.92	14578304.65	40°08'29.323"N	104°49'02.078"W	1.12	
16087.00	89.940	359.840	7187.22	8764.18	8758.68	-780.99	1691491.34	14578393.61	40°08'30.202"N	104°49'02.083"W	0.24	
16176.00	89.880	359.870	7187.36	8853.18	8847.68	-781.21	1691490.93	14578482.58	40°08'31.082"N	104°49'02.086"W	0.08	
16266.00	89.880	0.500	7187.55	8943.17	8937.68	-780.92	1691491.03	14578572.54	40°08'31.971"N	104°49'02.082"W	0.70	
16355.00	89.910	359.820	7187.71	9032.17	9026.68	-780.67	1691491.09	14578661.50	40°08'32.850"N	104°49'02.079"W	0.76	
16445.00	89.940	359.590	7187.83	9122.17	9116.67	-781.14	1691490.44	14578751.47	40°08'33.740"N	104°49'02.085"W	0.26	
16535.00	89.850	359.830	7187.99	9212.17	9206.67	-781.59	1691489.80	14578841.43	40°08'34.629"N	104°49'02.091"W	0.28	
16624.00	89.910	359.130	7188.18	9301.17	9295.67	-782.40	1691488.80	14578930.39	40°08'35.509"N	104°49'02.102"W	0.79	
16714.00	89.910	358.950	7188.32	9391.16	9385.66	-783.91	1691487.11	14579020.33	40°08'36.398"N	104°49'02.121"W	0.20	
16803.00	90.000	358.860	7188.39	9480.16	9474.64	-785.61	1691485.22	14579109.28	40°08'37.277"N	104°49'02.143"W	0.14	
16876.00†	89.976	358.641	7188.41	9553.15	9547.62	-787.20	1691483.48	14579182.23	40°08'37.998"N	104°49'02.163"W	0.30	CROSS SETBACK TOE (459'FNL & 1876'FEL,SEC.18) 40.1438885 -104.8172676
16893.00	89.970	358.590	7188.41	9570.15	9564.62	-787.61	1691483.03	14579199.22	40°08'38.166"N	104°49'02.169"W	0.30	
16982.00	90.000	357.830	7188.44	9659.12	9653.57	-790.39	1691480.07	14579288.13	40°08'39.045"N	104°49'02.205"W	0.85	
17072.00	90.030	358.180	7188.41	9749.09	9743.52	-793.52	1691476.75	14579378.03	40°08'39.934"N	104°49'02.245"W	0.39	
17161.00	89.880	357.790	7188.48	9838.05	9832.46	-796.65	1691473.44	14579466.94	40°08'40.813"N	104°49'02.285"W	0.47	
17258.00	89.940	358.370	7188.64	9935.02	9929.41	-799.90	1691469.99	14579563.83	40°08'41.771"N	104°49'02.327"W	0.60	LAST BHGE MWD+IFR1+MSA SURVEY
17282.00	89.940	358.370	7188.66	9959.01	9953.40	-800.58	1691469.25	14579587.81	40°08'42.008"N	104°49'02.336"W	0.00	PTB (54'FNL & 1889'FEL,SEC.18) 40.1450023 -104.8173156

HOLE & CASING SECTIONS - Ref Wellbore: CASTLE PINES 19-5HZ AWB Ref Wellpath: CASTLE PINES 19-5HZ 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	26.00	1892.00	1866.00	26.00	1849.92	0.00	0.00	-132.01	-278.82

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 CASTLE PINES 19-5HZ(484'FSL & 1078'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-5HZ AWB
Facility	SEC.19-T2N-R66W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.18-T2N-R66W	2.00	0.71	-59.90	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	polygon
SEC.19-T2N-R66W	2.00	0.71	-59.90	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	polygon
CASTLE PINES 19-5HZ BHL REV-1(52'FNL & 1908'FEL,SEC.18)	7212.00	9954.74	-819.72	1691450.12	14579589.12	40°08'42.022"N	104°49'02.582"W	point
CASTLE PINES 19-5HZ HEEL REV-1(768'FSL & 1827'FEL,SEC.19)	7212.00	284.89	-748.72	1691541.27	14569923.29	40°07'06.463"N	104°49'01.664"W	point
CASTLE PINES 19-5HZ LANDBOX	7212.00	0.00	0.00	1692290.28	14569640.08	40°07'03.648"N	104°48'52.027"W	polygon
CASTLE PINES 19-5HZ LAT. TARGET	7212.00	8067.12	-775.86	1691497.90	14577702.34	40°08'23.368"N	104°49'02.017"W	point
CASTLE PINES 19-5HZ SETBACK 1	7212.00	0.00	0.00	1692290.28	14569640.08	40°07'03.648"N	104°48'52.027"W	polygon
CASTLE PINES 19-5HZ SETBACK 2	7212.00	0.00	0.00	1692290.28	14569640.08	40°07'03.648"N	104°48'52.027"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: CASTLE PINES 19-5HZ AWB					Ref Wellpath: CASTLE PINES 19-5HZ AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment		Wellbore
26.00	1848.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)		Custom APC ISCWSA Rev-2 MWD+IFR1 <136 - 1848>		CASTLE PINES 19-5HZ AWB
1848.00	17258.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)		Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1969 - 17258>		CASTLE PINES 19-5HZ AWB
17258.00	17282.00	Blind Drilling (std)		Projection to bit		CASTLE PINES 19-5HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 CASTLE PINES 19-5HZ(484'FSL & 1078'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-5HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
136.00	0.480	217.090	136.00	FIRST SURFACE MWD+IFR1 SURVEY
1848.00	17.750	245.390	1807.96	LAST SURFACE MWD+IFR1 SURVEY
1969.00	16.530	249.810	1923.59	FIRST BHGE MWD+IFR1+MSA SURVEY
6771.00	1.647	358.887	6660.66	KOP
7278.00	52.431	359.278	7105.08	ENTER LANDBOX (460'FSL & 1848'FEL,SEC.19) 40.1176145 -104.8172047
7595.00	89.200	0.080	7209.22	LANDING (754'FSL & 1847'FEL,SEC.19) 40.1184207 -104.8172025
8618.00	89.876	359.389	7201.83	CROSS SETBACK HEEL (1777'FSL & 1863'FEL,SEC.19) 40.1212282 -104.8172583
16876.00	89.976	358.641	7188.41	CROSS SETBACK TOE (459'FNL & 1876'FEL,SEC.18) 40.1438885 -104.8172676
17258.00	89.940	358.370	7188.64	LAST BHGE MWD+IFR1+MSA SURVEY
17282.00	89.940	358.370	7188.66	PTB (54'FNL & 1889'FEL,SEC.18) 40.1450023 -104.8173156