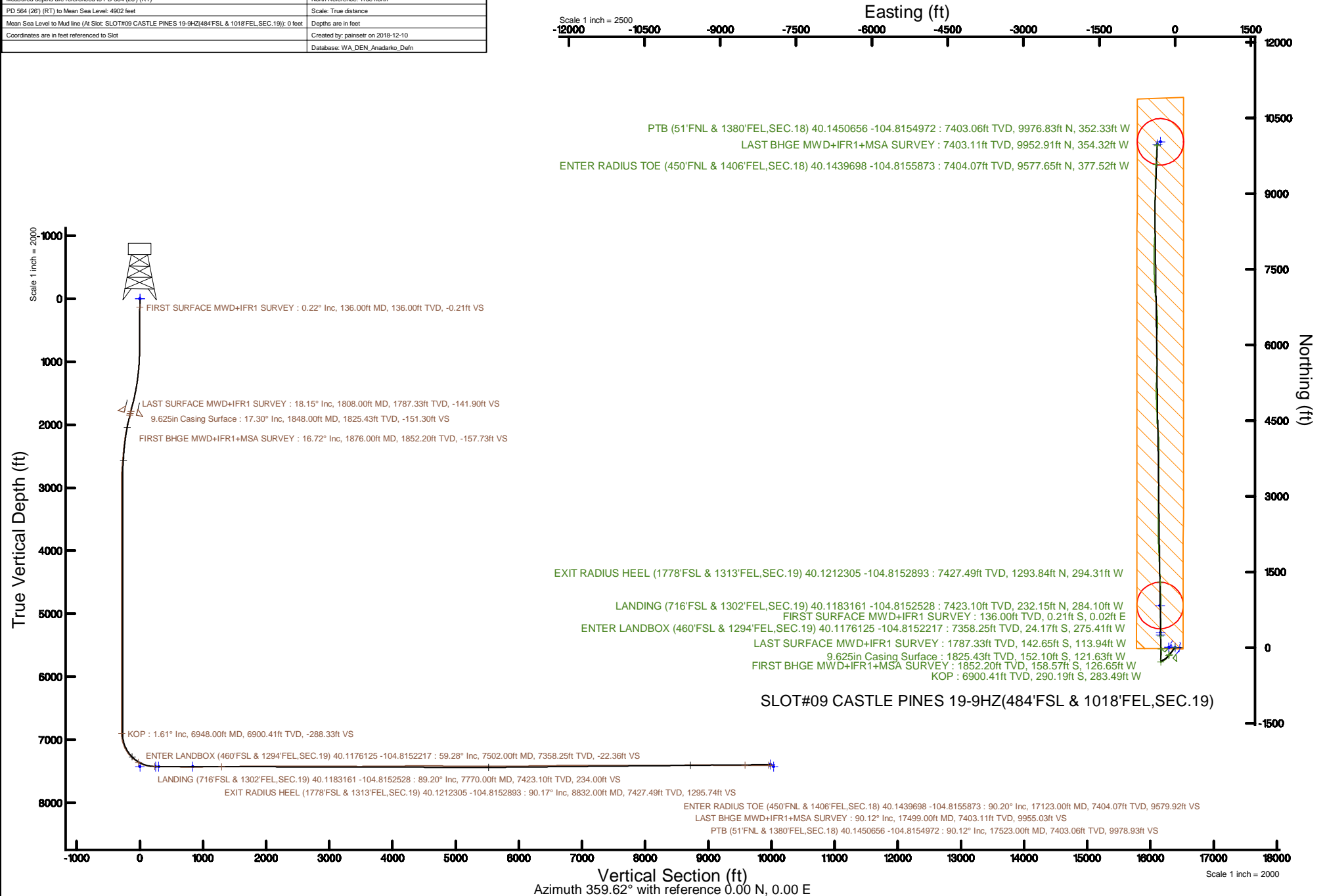


Location:	COLORADO	Well:	SLOT#09 CASTLE PINES 19-9HZ/484FSL & 1018FEL,SEC.19
Field:	WELD COUNTY (UTM/TTRUE NORTH)	Slot:	CASTLE PINES 19-9HZ
Facility:	SEC.19-T2N-R66W	Wellbore:	CASTLE PINES 19-9HZ PWB
Plot reference wellpath is CASTLE PINES 19-9HZ PWP Rev-A0		Grid System: NAD83 / UTM Zone 13 North, US feet	
True vertical depths are referenced to PD 564 (26) (RT)		* = Wellpath was transformed from a different geoidic 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 Mud line (At Slot: SLOT#09 CASTLE PINES 19-9HZ/484FSL & 1018FEL,SEC.19): 0 feet		Depths are in feet	
Coordinates are in feet referenced to Slot		Created by: painsear on 2018-12-10	
		Database: WA_Den_Anadarko_Defn	



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#09 CASTLE PINES 19-9HZ(484'FSL & 1018'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-9HZ 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	12/10/2018 at 2:41 PM
Convergence at slot	0.12° East	Database/Source file	WA_DEN_Anadarko_Defn/CASTLE_PINES_19-9HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-1.11	120.03	1692350.39	14569639.80	40°07'03.644"N	104°48'51.253"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#09 CASTLE PINES 19-9HZ(484'FSL & 1018'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	359.62°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#09 CASTLE PINES 19-9HZ(484'FSL & 1018'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-9HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (237 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	175.170	0.00	0.00	0.00	0.00	1692350.39	14569639.80	40°07'03.644"N	104°48'51.253"W	0.00	
26.00	0.000	175.170	26.00	0.00	0.00	0.00	1692350.39	14569639.80	40°07'03.644"N	104°48'51.253"W	0.00	
136.00	0.220	175.170	136.00	-0.21	-0.21	0.02	1692350.41	14569639.59	40°07'03.642"N	104°48'51.253"W	0.20	FIRST SURFACE MWD+IFR1 SURVEY
168.00	0.220	195.820	168.00	-0.33	-0.33	0.01	1692350.39	14569639.47	40°07'03.641"N	104°48'51.253"W	0.25	
199.00	0.480	236.430	199.00	-0.46	-0.46	-0.12	1692350.27	14569639.34	40°07'03.639"N	104°48'51.255"W	1.11	
231.00	0.480	199.780	231.00	-0.66	-0.66	-0.28	1692350.11	14569639.14	40°07'03.637"N	104°48'51.257"W	0.94	
263.00	0.530	236.960	263.00	-0.86	-0.87	-0.44	1692349.94	14569638.93	40°07'03.635"N	104°48'51.259"W	1.02	
295.00	0.750	226.320	294.99	-1.09	-1.09	-0.72	1692349.67	14569638.70	40°07'03.633"N	104°48'51.262"W	0.78	
326.00	0.570	231.860	325.99	-1.32	-1.33	-0.99	1692349.40	14569638.47	40°07'03.631"N	104°48'51.266"W	0.62	
358.00	0.620	206.020	357.99	-1.57	-1.58	-1.19	1692349.20	14569638.21	40°07'03.628"N	104°48'51.268"W	0.85	
390.00	0.830	227.820	389.99	-1.88	-1.89	-1.44	1692348.96	14569637.90	40°07'03.625"N	104°48'51.271"W	1.07	
422.00	0.530	213.930	421.99	-2.16	-2.17	-1.69	1692348.70	14569637.62	40°07'03.623"N	104°48'51.275"W	1.06	
454.00	0.480	194.240	453.98	-2.41	-2.42	-1.81	1692348.59	14569637.37	40°07'03.620"N	104°48'51.276"W	0.56	
486.00	0.350	200.390	485.98	-2.63	-2.65	-1.87	1692348.52	14569637.15	40°07'03.618"N	104°48'51.277"W	0.43	
517.00	0.530	184.570	516.98	-2.86	-2.88	-1.92	1692348.48	14569636.92	40°07'03.616"N	104°48'51.278"W	0.70	
549.00	0.660	187.040	548.98	-3.19	-3.21	-1.95	1692348.44	14569636.59	40°07'03.612"N	104°48'51.278"W	0.41	
581.00	0.700	217.710	580.98	-3.53	-3.55	-2.09	1692348.30	14569636.25	40°07'03.609"N	104°48'51.280"W	1.13	
612.00	1.010	212.880	611.98	-3.91	-3.92	-2.36	1692348.04	14569635.87	40°07'03.605"N	104°48'51.283"W	1.03	
644.00	0.620	216.480	643.97	-4.28	-4.30	-2.62	1692347.78	14569635.49	40°07'03.602"N	104°48'51.287"W	1.23	
676.00	0.350	204.970	675.97	-4.51	-4.53	-2.76	1692347.64	14569635.27	40°07'03.599"N	104°48'51.289"W	0.89	
707.00	0.310	121.470	706.97	-4.64	-4.66	-2.73	1692347.67	14569635.14	40°07'03.598"N	104°48'51.288"W	1.42	
739.00	0.400	114.970	738.97	-4.73	-4.75	-2.55	1692347.85	14569635.04	40°07'03.597"N	104°48'51.286"W	0.31	
771.00	0.310	68.380	770.97	-4.75	-4.77	-2.37	1692348.03	14569635.03	40°07'03.597"N	104°48'51.284"W	0.91	
803.00	0.400	154.870	802.97	-4.82	-4.83	-2.24	1692348.16	14569634.96	40°07'03.596"N	104°48'51.282"W	1.53	
834.00	0.700	174.200	833.97	-5.11	-5.12	-2.18	1692348.22	14569634.67	40°07'03.593"N	104°48'51.281"W	1.12	
866.00	1.270	206.900	865.96	-5.62	-5.63	-2.32	1692348.08	14569634.16	40°07'03.588"N	104°48'51.283"W	2.43	
898.00	2.150	220.960	897.95	-6.38	-6.40	-2.87	1692347.53	14569633.39	40°07'03.581"N	104°48'51.290"W	3.03	
930.00	2.550	228.870	929.92	-7.30	-7.32	-3.80	1692346.60	14569632.47	40°07'03.572"N	104°48'51.302"W	1.61	
961.00	3.120	227.380	960.88	-8.32	-8.35	-4.94	1692345.46	14569631.44	40°07'03.562"N	104°48'51.317"W	1.85	
993.00	3.960	222.720	992.82	-9.71	-9.75	-6.33	1692344.08	14569630.04	40°07'03.548"N	104°48'51.335"W	2.77	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#09 CASTLE PINES 19-9HZ(484'FSL & 1018'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-9HZ AWP
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (237 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
1025.00	5.140	226.060	1024.72	-11.50	-11.56	-8.11	1692342.30	14569628.23	40°07'03.530"N	104°48'51.357"W	3.78	
1057.00	6.150	223.160	1056.57	-13.73	-13.80	-10.32	1692340.10	14569625.98	40°07'03.508"N	104°48'51.386"W	3.28	
1088.00	6.860	222.890	1087.37	-16.28	-16.37	-12.72	1692337.71	14569623.41	40°07'03.482"N	104°48'51.417"W	2.29	
1120.00	7.340	225.710	1119.12	-19.09	-19.20	-15.48	1692334.95	14569620.58	40°07'03.454"N	104°48'51.452"W	1.85	
1152.00	7.430	225.790	1150.86	-21.94	-22.07	-18.43	1692332.02	14569617.70	40°07'03.426"N	104°48'51.490"W	0.28	
1184.00	7.870	224.130	1182.57	-24.94	-25.08	-21.43	1692329.01	14569614.68	40°07'03.396"N	104°48'51.529"W	1.54	
1215.00	8.170	219.380	1213.27	-28.15	-28.31	-24.31	1692326.15	14569611.45	40°07'03.364"N	104°48'51.566"W	2.35	
1247.00	9.140	216.390	1244.90	-31.93	-32.11	-27.26	1692323.21	14569607.64	40°07'03.327"N	104°48'51.604"W	3.34	
1279.00	10.150	217.530	1276.45	-36.19	-36.39	-30.49	1692319.99	14569603.36	40°07'03.284"N	104°48'51.645"W	3.21	
1310.00	10.720	216.300	1306.94	-40.66	-40.88	-33.86	1692316.63	14569598.86	40°07'03.240"N	104°48'51.689"W	1.97	
1342.00	11.120	215.690	1338.36	-45.54	-45.79	-37.42	1692313.08	14569593.95	40°07'03.192"N	104°48'51.735"W	1.30	
1373.00	11.690	216.480	1368.75	-50.47	-50.74	-41.03	1692309.48	14569588.99	40°07'03.143"N	104°48'51.781"W	1.91	
1405.00	11.820	216.300	1400.07	-55.69	-55.99	-44.90	1692305.62	14569583.74	40°07'03.091"N	104°48'51.831"W	0.42	
1437.00	12.830	217.180	1431.34	-61.14	-61.46	-48.99	1692301.55	14569578.26	40°07'03.037"N	104°48'51.884"W	3.21	
1468.00	13.840	217.360	1461.50	-66.80	-67.15	-53.32	1692297.23	14569572.56	40°07'02.980"N	104°48'51.939"W	3.26	
1500.00	14.590	217.090	1492.52	-73.03	-73.41	-58.07	1692292.50	14569566.30	40°07'02.919"N	104°48'52.000"W	2.35	
1532.00	15.070	218.590	1523.45	-79.46	-79.87	-63.09	1692287.49	14569559.82	40°07'02.855"N	104°48'52.065"W	1.92	
1563.00	15.860	218.760	1553.33	-85.88	-86.33	-68.26	1692282.34	14569553.36	40°07'02.791"N	104°48'52.132"W	2.55	
1594.00	16.040	218.060	1583.14	-92.52	-93.00	-73.55	1692277.06	14569546.68	40°07'02.725"N	104°48'52.200"W	0.85	
1626.00	16.300	219.470	1613.87	-99.43	-99.95	-79.13	1692271.50	14569539.72	40°07'02.656"N	104°48'52.272"W	1.47	
1658.00	16.880	219.290	1644.54	-106.45	-107.01	-84.93	1692265.72	14569532.65	40°07'02.586"N	104°48'52.346"W	1.82	
1690.00	17.670	218.940	1675.10	-113.79	-114.39	-90.92	1692259.74	14569525.27	40°07'02.514"N	104°48'52.423"W	2.49	
1721.00	18.060	218.680	1704.60	-121.16	-121.80	-96.88	1692253.80	14569517.85	40°07'02.440"N	104°48'52.500"W	1.28	
1753.00	17.930	219.550	1735.04	-128.79	-129.47	-103.12	1692247.58	14569510.17	40°07'02.365"N	104°48'52.580"W	0.93	
1785.00	18.110	219.120	1765.47	-136.40	-137.12	-109.39	1692241.32	14569502.50	40°07'02.289"N	104°48'52.661"W	0.70	
1808.00	18.150	219.820	1787.33	-141.90	-142.65	-113.94	1692236.79	14569496.97	40°07'02.234"N	104°48'52.720"W	0.96	LAST SURFACE MWD+IFR1 SURVEY
1876.00	16.720	217.300	1852.20	-157.73	-158.57	-126.65	1692224.12	14569481.03	40°07'02.077"N	104°48'52.883"W	2.38	FIRST BHGE MWD+IFR1+MSA SURVEY
1966.00	16.970	216.980	1938.34	-178.42	-179.36	-142.40	1692208.42	14569460.22	40°07'01.872"N	104°48'53.086"W	0.30	
2055.00	15.610	215.950	2023.76	-198.39	-199.43	-157.24	1692193.62	14569440.12	40°07'01.673"N	104°48'53.277"W	1.56	
2145.00	15.320	225.060	2110.52	-216.49	-217.63	-172.77	1692178.14	14569421.90	40°07'01.493"N	104°48'53.477"W	2.72	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#09 CASTLE PINES 19-9HZ(484'FSL & 1018'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-9HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (237 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
2234.00	13.790	230.250	2196.66	-231.47	-232.72	-189.25	1692161.70	14569406.78	40°07'01.344"N	104°48'53.689"W	2.26	
2324.00	13.360	239.000	2284.16	-243.57	-244.93	-206.41	1692144.57	14569394.53	40°07'01.224"N	104°48'53.910"W	2.33	
2413.00	11.880	239.630	2371.01	-253.39	-254.86	-223.13	1692127.88	14569384.57	40°07'01.125"N	104°48'54.125"W	1.67	
2502.00	11.430	244.770	2458.17	-261.68	-263.25	-239.01	1692112.02	14569376.15	40°07'01.042"N	104°48'54.329"W	1.27	
2592.00	10.580	243.370	2546.52	-269.08	-270.76	-254.47	1692096.59	14569368.62	40°07'00.968"N	104°48'54.528"W	0.99	
2681.00	8.010	225.260	2634.36	-277.04	-278.79	-266.18	1692084.90	14569360.57	40°07'00.889"N	104°48'54.679"W	4.34	
2770.00	5.360	218.070	2722.75	-284.63	-286.43	-273.15	1692077.95	14569352.92	40°07'00.813"N	104°48'54.769"W	3.12	
2859.00	2.960	244.200	2811.51	-288.87	-290.70	-277.78	1692073.33	14569348.63	40°07'00.771"N	104°48'54.828"W	3.37	
2949.00	1.730	264.560	2901.44	-289.99	-291.84	-281.23	1692069.88	14569347.49	40°07'00.760"N	104°48'54.873"W	1.63	
3038.00	0.250	166.270	2990.42	-290.30	-292.16	-282.52	1692068.59	14569347.17	40°07'00.757"N	104°48'54.889"W	2.00	
3127.00	0.030	172.920	3079.42	-290.51	-292.37	-282.47	1692068.64	14569346.96	40°07'00.755"N	104°48'54.889"W	0.25	
3217.00	0.040	302.910	3169.42	-290.51	-292.37	-282.49	1692068.62	14569346.95	40°07'00.755"N	104°48'54.889"W	0.07	
3306.00	0.030	24.620	3258.42	-290.48	-292.34	-282.51	1692068.60	14569346.99	40°07'00.755"N	104°48'54.889"W	0.05	
3395.00	0.040	265.190	3347.42	-290.46	-292.32	-282.53	1692068.58	14569347.01	40°07'00.755"N	104°48'54.890"W	0.07	
3485.00	0.090	152.220	3437.42	-290.52	-292.38	-282.53	1692068.58	14569346.94	40°07'00.755"N	104°48'54.890"W	0.12	
3574.00	0.070	254.300	3526.42	-290.60	-292.46	-282.55	1692068.56	14569346.87	40°07'00.754"N	104°48'54.890"W	0.14	
3664.00	0.160	188.470	3616.42	-290.74	-292.60	-282.62	1692068.49	14569346.73	40°07'00.752"N	104°48'54.891"W	0.16	
3753.00	0.090	91.920	3705.42	-290.86	-292.72	-282.57	1692068.55	14569346.60	40°07'00.751"N	104°48'54.890"W	0.22	
3843.00	0.040	290.900	3795.42	-290.86	-292.72	-282.53	1692068.59	14569346.61	40°07'00.751"N	104°48'54.890"W	0.14	
3932.00	0.090	5.270	3884.42	-290.77	-292.63	-282.55	1692068.56	14569346.69	40°07'00.752"N	104°48'54.890"W	0.10	
4022.00	0.000	8.170	3974.42	-290.70	-292.56	-282.54	1692068.57	14569346.76	40°07'00.753"N	104°48'54.890"W	0.10	
4111.00	0.040	248.070	4063.42	-290.72	-292.58	-282.57	1692068.54	14569346.75	40°07'00.753"N	104°48'54.890"W	0.04	
4200.00	0.060	320.870	4152.42	-290.69	-292.55	-282.63	1692068.48	14569346.77	40°07'00.753"N	104°48'54.891"W	0.07	
4289.00	0.040	265.910	4241.42	-290.66	-292.52	-282.69	1692068.42	14569346.81	40°07'00.753"N	104°48'54.892"W	0.06	
4379.00	0.030	334.790	4331.42	-290.64	-292.50	-282.73	1692068.38	14569346.83	40°07'00.753"N	104°48'54.892"W	0.04	
4468.00	0.040	159.900	4420.42	-290.64	-292.51	-282.73	1692068.38	14569346.82	40°07'00.753"N	104°48'54.892"W	0.08	
4557.00	0.040	221.370	4509.42	-290.70	-292.56	-282.74	1692068.37	14569346.77	40°07'00.753"N	104°48'54.892"W	0.05	
4647.00	0.060	49.240	4599.42	-290.69	-292.55	-282.72	1692068.39	14569346.77	40°07'00.753"N	104°48'54.892"W	0.11	
4736.00	0.070	239.380	4688.42	-290.69	-292.55	-282.74	1692068.38	14569346.78	40°07'00.753"N	104°48'54.892"W	0.15	
4825.00	0.070	309.430	4777.42	-290.68	-292.54	-282.82	1692068.29	14569346.78	40°07'00.753"N	104°48'54.893"W	0.09	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#09 CASTLE PINES 19-9HZ(484'FSL & 1018'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-9HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (237 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
4915.00	0.110	301.090	4867.42	-290.60	-292.46	-282.94	1692068.17	14569346.86	40°07'00.754"N	104°48'54.895"W	0.05	
5004.00	0.060	309.480	4956.42	-290.53	-292.39	-283.05	1692068.06	14569346.94	40°07'00.755"N	104°48'54.896"W	0.06	
5094.00	0.060	295.850	5046.42	-290.47	-292.34	-283.13	1692067.98	14569346.99	40°07'00.755"N	104°48'54.897"W	0.02	
5183.00	0.070	277.610	5135.42	-290.45	-292.31	-283.23	1692067.89	14569347.01	40°07'00.755"N	104°48'54.899"W	0.03	
5272.00	0.090	317.010	5224.42	-290.39	-292.25	-283.33	1692067.78	14569347.07	40°07'00.756"N	104°48'54.900"W	0.06	
5361.00	0.090	296.790	5313.42	-290.30	-292.17	-283.44	1692067.67	14569347.15	40°07'00.757"N	104°48'54.901"W	0.04	
5450.00	0.030	17.540	5402.42	-290.25	-292.12	-283.49	1692067.62	14569347.21	40°07'00.757"N	104°48'54.902"W	0.10	
5539.00	0.030	135.650	5491.42	-290.24	-292.11	-283.47	1692067.64	14569347.21	40°07'00.757"N	104°48'54.902"W	0.06	
5629.00	0.030	64.720	5581.42	-290.25	-292.12	-283.43	1692067.68	14569347.21	40°07'00.757"N	104°48'54.901"W	0.04	
5718.00	0.090	300.780	5670.42	-290.21	-292.07	-283.47	1692067.64	14569347.25	40°07'00.758"N	104°48'54.902"W	0.12	
5807.00	0.040	6.920	5759.42	-290.14	-292.01	-283.53	1692067.58	14569347.32	40°07'00.758"N	104°48'54.902"W	0.09	
5896.00	0.040	174.480	5848.42	-290.14	-292.01	-283.52	1692067.59	14569347.32	40°07'00.758"N	104°48'54.902"W	0.09	
5986.00	0.090	351.420	5938.42	-290.10	-291.97	-283.53	1692067.58	14569347.36	40°07'00.759"N	104°48'54.902"W	0.14	
6075.00	0.190	322.370	6027.42	-289.91	-291.78	-283.63	1692067.48	14569347.54	40°07'00.761"N	104°48'54.904"W	0.13	
6165.00	0.100	286.520	6117.42	-289.77	-291.64	-283.79	1692067.32	14569347.68	40°07'00.762"N	104°48'54.906"W	0.14	
6254.00	0.110	84.360	6206.42	-289.74	-291.61	-283.78	1692067.33	14569347.71	40°07'00.762"N	104°48'54.906"W	0.23	
6343.00	0.130	5.200	6295.42	-289.63	-291.50	-283.69	1692067.42	14569347.82	40°07'00.763"N	104°48'54.905"W	0.17	
6432.00	0.030	9.650	6384.42	-289.51	-291.38	-283.68	1692067.43	14569347.95	40°07'00.765"N	104°48'54.904"W	0.11	
6522.00	0.030	261.630	6474.42	-289.49	-291.36	-283.70	1692067.41	14569347.97	40°07'00.765"N	104°48'54.905"W	0.05	
6611.00	0.090	18.770	6563.42	-289.43	-291.29	-283.70	1692067.41	14569348.03	40°07'00.765"N	104°48'54.905"W	0.12	
6700.00	0.030	99.580	6652.42	-289.36	-291.23	-283.65	1692067.46	14569348.09	40°07'00.766"N	104°48'54.904"W	0.10	
6789.00	0.110	53.880	6741.42	-289.32	-291.19	-283.56	1692067.55	14569348.14	40°07'00.766"N	104°48'54.903"W	0.10	
6879.00	0.040	117.790	6831.42	-289.28	-291.15	-283.46	1692067.65	14569348.17	40°07'00.767"N	104°48'54.902"W	0.11	
6948.00†	1.608	356.914	6900.41	-288.33	-290.19	-283.49	1692067.62	14569349.13	40°07'00.776"N	104°48'54.902"W	2.36	KOP
6968.00	2.080	356.640	6920.40	-287.68	-289.55	-283.53	1692067.58	14569349.77	40°07'00.783"N	104°48'54.902"W	2.36	
7057.00	12.760	358.710	7008.53	-276.21	-278.08	-283.85	1692067.24	14569361.24	40°07'00.896"N	104°48'54.907"W	12.00	
7146.00	21.480	354.730	7093.51	-250.10	-251.98	-285.57	1692065.46	14569387.33	40°07'01.154"N	104°48'54.929"W	9.88	
7235.00	31.650	3.700	7173.04	-210.45	-212.33	-285.56	1692065.39	14569426.96	40°07'01.546"N	104°48'54.929"W	12.25	
7324.00	41.740	9.180	7244.33	-157.79	-159.63	-279.31	1692071.53	14569479.65	40°07'02.066"N	104°48'54.848"W	11.91	
7414.00	49.700	2.070	7307.15	-93.82	-95.61	-273.27	1692077.42	14569543.65	40°07'02.699"N	104°48'54.770"W	10.49	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#09 CASTLE PINES 19-9HZ(484'FSL & 1018'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-9HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (237 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
7502.00†	59.279	354.922	7358.25	-22.36	-24.17	-275.41	1692075.13	14569615.06	40°07'03.405"N	104°48'54.798"W	12.72	ENTER LANDBOX (460'FSL & 1294'FEL,SEC.19) 40.1176125 -104.8152217
7503.00	59.390	354.850	7358.76	-21.51	-23.32	-275.49	1692075.06	14569615.92	40°07'03.414"N	104°48'54.799"W	12.72	
7592.00	71.230	355.210	7395.87	58.95	57.10	-282.47	1692067.91	14569696.29	40°07'04.208"N	104°48'54.889"W	13.31	
7681.00	82.120	0.190	7416.37	145.35	143.48	-285.86	1692064.35	14569782.62	40°07'05.062"N	104°48'54.933"W	13.39	
7770.00	89.200	2.070	7423.10	234.00	232.15	-284.10	1692065.92	14569871.26	40°07'05.938"N	104°48'54.910"W	8.23	LANDING (716'FSL & 1302'FEL,SEC.19) 40.1183161 -104.8152528
7859.00	89.170	0.350	7424.36	322.96	321.11	-282.22	1692067.61	14569960.19	40°07'06.817"N	104°48'54.886"W	1.93	
7949.00	88.890	359.100	7425.89	412.94	411.10	-282.65	1692066.99	14570050.14	40°07'07.706"N	104°48'54.891"W	1.42	
8038.00	89.510	358.590	7427.13	501.93	500.07	-284.45	1692065.01	14570139.07	40°07'08.586"N	104°48'54.914"W	0.90	
8127.00	89.290	358.460	7428.06	590.90	589.04	-286.74	1692062.53	14570228.00	40°07'09.465"N	104°48'54.944"W	0.29	
8216.00	90.000	0.840	7428.61	679.90	678.03	-287.28	1692061.80	14570316.95	40°07'10.344"N	104°48'54.951"W	2.79	
8305.00	89.970	1.550	7428.64	768.86	767.01	-285.43	1692063.47	14570405.90	40°07'11.224"N	104°48'54.927"W	0.80	
8395.00	89.970	0.110	7428.68	858.84	856.99	-284.12	1692064.59	14570495.85	40°07'12.113"N	104°48'54.910"W	1.60	
8484.00	90.150	359.410	7428.59	947.84	945.99	-284.50	1692064.03	14570584.82	40°07'12.992"N	104°48'54.915"W	0.81	
8573.00	90.220	358.610	7428.30	1036.83	1034.98	-286.03	1692062.31	14570673.76	40°07'13.872"N	104°48'54.935"W	0.90	
8662.00	90.220	358.280	7427.96	1125.81	1123.94	-288.45	1692059.71	14570762.69	40°07'14.751"N	104°48'54.966"W	0.37	
8751.00	90.120	358.120	7427.70	1214.78	1212.90	-291.24	1692056.73	14570851.60	40°07'15.630"N	104°48'55.002"W	0.21	
8832.00†	90.174	357.535	7427.49	1295.74	1293.84	-294.31	1692053.49	14570932.51	40°07'16.430"N	104°48'55.042"W	0.73	EXIT RADIUS HEEL (1778'FSL & 1313'FEL,SEC.19) 40.1212305 -104.8152893
8841.00	90.180	357.470	7427.46	1304.74	1302.83	-294.71	1692053.08	14570941.49	40°07'16.519"N	104°48'55.047"W	0.73	
8930.00	90.950	356.860	7426.58	1393.65	1391.72	-299.11	1692048.49	14571030.33	40°07'17.397"N	104°48'55.103"W	1.10	
9019.00	91.390	357.630	7424.77	1482.55	1480.60	-303.38	1692044.03	14571119.17	40°07'18.275"N	104°48'55.158"W	1.00	
9108.00	91.940	358.070	7422.18	1571.47	1569.49	-306.72	1692040.51	14571208.02	40°07'19.154"N	104°48'55.201"W	0.79	
9197.00	91.880	358.190	7419.21	1660.39	1658.40	-309.62	1692037.42	14571296.88	40°07'20.032"N	104°48'55.239"W	0.15	
9287.00	90.490	357.470	7417.35	1750.33	1748.31	-313.03	1692033.83	14571386.75	40°07'20.921"N	104°48'55.283"W	1.74	
9376.00	90.280	356.540	7416.76	1839.23	1837.19	-317.68	1692029.00	14571475.58	40°07'21.799"N	104°48'55.342"W	1.07	
9465.00	89.850	356.890	7416.65	1928.12	1926.04	-322.78	1692023.71	14571564.39	40°07'22.677"N	104°48'55.408"W	0.62	
9555.00	89.720	358.080	7416.99	2018.05	2015.95	-326.73	1692019.58	14571654.26	40°07'23.566"N	104°48'55.459"W	1.33	
9644.00	89.910	358.690	7417.28	2107.03	2104.91	-329.24	1692016.88	14571743.18	40°07'24.445"N	104°48'55.491"W	0.72	
9733.00	89.910	359.720	7417.42	2196.03	2193.91	-330.47	1692015.46	14571832.13	40°07'25.324"N	104°48'55.507"W	1.16	
9823.00	89.750	0.480	7417.69	2286.02	2283.90	-330.32	1692015.43	14571922.10	40°07'26.214"N	104°48'55.505"W	0.86	
9912.00	89.780	0.130	7418.05	2375.02	2372.90	-329.84	1692015.72	14572011.06	40°07'27.093"N	104°48'55.499"W	0.39	

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Area	COLORADO	Well	CASTLE PINES 19-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-9HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (237 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
10001.00	89.720	359.310	7418.44	2464.01	2461.90	-330.28	1692015.10	14572100.02	40°07'27.973"N	104°48'55.505"W	0.92	
10091.00	89.820	359.380	7418.80	2554.01	2551.89	-331.31	1692013.88	14572189.98	40°07'28.862"N	104°48'55.518"W	0.14	
10180.00	89.880	359.810	7419.03	2643.01	2640.89	-331.94	1692013.07	14572278.94	40°07'29.742"N	104°48'55.526"W	0.49	
10269.00	89.850	359.850	7419.24	2732.01	2729.89	-332.20	1692012.62	14572367.90	40°07'30.621"N	104°48'55.529"W	0.06	
10359.00	89.750	359.810	7419.56	2822.01	2819.89	-332.47	1692012.16	14572457.86	40°07'31.510"N	104°48'55.533"W	0.12	
10448.00	89.910	359.950	7419.82	2911.01	2908.89	-332.65	1692011.79	14572546.82	40°07'32.390"N	104°48'55.535"W	0.24	
10537.00	89.850	0.400	7420.01	3000.00	2997.89	-332.38	1692011.88	14572635.79	40°07'33.269"N	104°48'55.532"W	0.51	
10627.00	89.820	1.180	7420.27	3089.98	3087.88	-331.14	1692012.93	14572725.75	40°07'34.159"N	104°48'55.516"W	0.87	
10716.00	89.690	2.290	7420.65	3178.92	3176.83	-328.45	1692015.44	14572814.67	40°07'35.038"N	104°48'55.481"W	1.26	
10806.00	89.720	1.240	7421.11	3268.86	3266.79	-325.67	1692018.02	14572904.60	40°07'35.927"N	104°48'55.446"W	1.17	
10895.00	89.850	359.150	7421.45	3357.85	3355.78	-325.37	1692018.14	14572993.56	40°07'36.806"N	104°48'55.442"W	2.35	
10984.00	89.720	359.090	7421.78	3446.84	3444.77	-326.74	1692016.59	14573082.51	40°07'37.686"N	104°48'55.459"W	0.16	
11073.00	90.460	0.240	7421.64	3535.84	3533.77	-327.26	1692015.88	14573171.47	40°07'38.565"N	104°48'55.466"W	1.54	
11163.00	90.370	0.980	7420.99	3625.82	3623.76	-326.30	1692016.65	14573261.42	40°07'39.454"N	104°48'55.454"W	0.83	
11252.00	90.400	1.620	7420.39	3714.78	3712.73	-324.28	1692018.48	14573350.37	40°07'40.334"N	104°48'55.428"W	0.72	
11342.00	90.430	1.650	7419.74	3804.72	3802.70	-321.71	1692020.86	14573440.30	40°07'41.223"N	104°48'55.395"W	0.05	
11431.00	90.520	0.080	7419.00	3893.70	3891.68	-320.37	1692022.02	14573529.25	40°07'42.102"N	104°48'55.377"W	1.77	
11521.00	90.620	358.690	7418.10	3983.69	3981.67	-321.34	1692020.87	14573619.20	40°07'42.991"N	104°48'55.390"W	1.55	
11610.00	90.770	357.990	7417.02	4072.66	4070.62	-323.91	1692018.10	14573708.11	40°07'43.870"N	104°48'55.423"W	0.80	
11700.00	91.080	357.810	7415.57	4162.61	4160.55	-327.21	1692014.62	14573798.00	40°07'44.759"N	104°48'55.465"W	0.40	
11789.00	90.460	354.650	7414.38	4251.43	4249.34	-333.06	1692008.58	14573886.74	40°07'45.636"N	104°48'55.541"W	3.62	
11879.00	90.370	353.380	7413.72	4341.00	4338.84	-342.45	1691999.02	14573976.19	40°07'46.521"N	104°48'55.662"W	1.41	
11968.00	90.000	354.860	7413.44	4429.58	4427.37	-351.56	1691989.72	14574064.66	40°07'47.396"N	104°48'55.779"W	1.71	
12058.00	89.600	357.110	7413.75	4519.40	4517.14	-357.86	1691983.23	14574154.38	40°07'48.283"N	104°48'55.860"W	2.54	
12147.00	89.660	359.850	7414.33	4608.37	4606.10	-360.23	1691980.69	14574243.30	40°07'49.162"N	104°48'55.891"W	3.08	
12237.00	89.820	358.720	7414.73	4698.36	4696.09	-361.35	1691979.38	14574333.25	40°07'50.051"N	104°48'55.905"W	1.27	
12326.00	89.780	357.470	7415.04	4787.33	4785.04	-364.31	1691976.23	14574422.16	40°07'50.930"N	104°48'55.943"W	1.41	
12416.00	89.690	357.970	7415.46	4877.28	4874.97	-367.89	1691972.47	14574512.04	40°07'51.819"N	104°48'55.989"W	0.56	
12505.00	89.780	358.640	7415.87	4966.25	4963.93	-370.52	1691969.65	14574600.96	40°07'52.698"N	104°48'56.023"W	0.76	
12595.00	89.690	359.550	7416.29	5056.25	5053.92	-371.94	1691968.04	14574690.91	40°07'53.587"N	104°48'56.041"W	1.02	



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#09 CASTLE PINES 19-9HZ(484'FSL & 1018'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-9HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (237 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
12684.00	89.690	0.580	7416.77	5145.24	5142.91	-371.84	1691967.96	14574779.87	40°07'54.467"N	104°48'56.040"W	1.16	
12774.00	89.660	1.730	7417.28	5235.21	5232.89	-370.03	1691969.58	14574869.82	40°07'55.356"N	104°48'56.017"W	1.28	
12863.00	89.820	2.190	7417.68	5324.13	5321.84	-366.98	1691972.44	14574958.74	40°07'56.235"N	104°48'55.978"W	0.55	
12953.00	89.780	0.840	7418.00	5414.08	5411.81	-364.60	1691974.63	14575048.67	40°07'57.124"N	104°48'55.947"W	1.50	
13042.00	89.850	0.980	7418.29	5503.06	5500.79	-363.19	1691975.86	14575137.63	40°07'58.003"N	104°48'55.929"W	0.18	
13132.00	89.850	2.450	7418.52	5593.00	5590.75	-360.50	1691978.36	14575227.55	40°07'58.892"N	104°48'55.894"W	1.63	
13221.00	90.000	2.380	7418.64	5681.89	5679.67	-356.75	1691981.92	14575316.45	40°07'59.771"N	104°48'55.846"W	0.19	
13311.00	90.000	0.880	7418.64	5771.83	5769.63	-354.19	1691984.30	14575406.38	40°08'00.660"N	104°48'55.813"W	1.67	
13400.00	90.710	359.380	7418.09	5860.82	5858.63	-353.98	1691984.31	14575495.34	40°08'01.540"N	104°48'55.810"W	1.86	
13489.00	90.580	357.730	7417.08	5949.80	5947.59	-356.23	1691981.88	14575584.26	40°08'02.419"N	104°48'55.839"W	1.86	
13579.00	90.550	356.490	7416.20	6039.71	6037.47	-360.77	1691977.16	14575674.09	40°08'03.307"N	104°48'55.898"W	1.38	
13668.00	90.580	0.110	7415.32	6128.66	6126.41	-363.40	1691974.33	14575762.99	40°08'04.186"N	104°48'55.932"W	4.07	
13758.00	90.620	4.750	7414.38	6218.53	6216.30	-359.59	1691977.96	14575852.85	40°08'05.074"N	104°48'55.883"W	5.16	
13847.00	90.490	2.880	7413.51	6307.28	6305.10	-353.67	1691983.69	14575941.63	40°08'05.952"N	104°48'55.806"W	2.11	
13936.00	91.140	1.050	7412.25	6396.19	6394.03	-350.62	1691986.56	14576030.53	40°08'06.830"N	104°48'55.767"W	2.18	
14026.00	91.020	359.190	7410.55	6486.17	6484.01	-350.43	1691986.56	14576120.48	40°08'07.720"N	104°48'55.765"W	2.07	
14115.00	91.080	357.420	7408.92	6575.13	6572.95	-353.06	1691983.74	14576209.38	40°08'08.599"N	104°48'55.799"W	1.99	
14204.00	90.680	355.950	7407.55	6664.00	6661.79	-358.21	1691978.41	14576298.17	40°08'09.476"N	104°48'55.865"W	1.71	
14294.00	90.920	354.240	7406.30	6753.70	6751.45	-365.90	1691970.53	14576387.77	40°08'10.362"N	104°48'55.964"W	1.92	
14383.00	90.520	353.980	7405.18	6842.29	6839.97	-375.03	1691961.22	14576476.24	40°08'11.237"N	104°48'56.082"W	0.54	
14473.00	90.280	354.180	7404.55	6931.86	6929.49	-384.32	1691951.75	14576565.71	40°08'12.122"N	104°48'56.201"W	0.35	
14562.00	90.310	355.250	7404.09	7020.53	7018.11	-392.51	1691943.38	14576654.27	40°08'12.998"N	104°48'56.307"W	1.20	
14652.00	90.250	356.450	7403.65	7110.34	7107.87	-399.03	1691936.68	14576743.98	40°08'13.885"N	104°48'56.391"W	1.33	
14741.00	90.150	358.470	7403.34	7199.27	7196.78	-402.97	1691932.55	14576832.85	40°08'14.763"N	104°48'56.441"W	2.27	
14830.00	90.250	357.680	7403.03	7288.23	7285.73	-405.96	1691929.38	14576921.75	40°08'15.642"N	104°48'56.480"W	0.89	
14920.00	89.910	356.970	7402.91	7378.16	7375.63	-410.16	1691924.99	14577011.61	40°08'16.531"N	104°48'56.534"W	0.87	
15010.00	89.750	358.580	7403.17	7468.11	7465.56	-413.65	1691921.31	14577101.50	40°08'17.419"N	104°48'56.579"W	1.80	
15099.00	89.720	359.720	7403.58	7557.10	7554.54	-414.97	1691919.80	14577190.44	40°08'18.299"N	104°48'56.596"W	1.28	
15189.00	89.820	358.590	7403.95	7647.10	7644.53	-416.30	1691918.29	14577280.39	40°08'19.188"N	104°48'56.613"W	1.26	
15278.00	89.600	359.870	7404.40	7736.09	7733.52	-417.50	1691916.91	14577369.34	40°08'20.067"N	104°48'56.629"W	1.46	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#09 CASTLE PINES 19-9HZ(484'FSL & 1018'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-9HZ AWP
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (237 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
15368.00	89.630	0.690	7405.00	7826.08	7823.52	-417.06	1691917.16	14577459.31	40°08'20.957"N	104°48'56.623"W	0.91	
15457.00	89.570	2.200	7405.62	7915.03	7912.48	-414.81	1691919.22	14577548.24	40°08'21.836"N	104°48'56.594"W	1.70	
15547.00	89.720	3.620	7406.18	8004.88	8002.36	-410.25	1691923.60	14577638.09	40°08'22.724"N	104°48'56.535"W	1.59	
15636.00	90.550	3.310	7405.97	8093.68	8091.20	-404.87	1691928.79	14577726.91	40°08'23.602"N	104°48'56.466"W	1.00	
15726.00	90.460	1.580	7405.18	8183.57	8181.11	-401.03	1691932.44	14577816.79	40°08'24.491"N	104°48'56.417"W	1.92	
15815.00	90.430	359.360	7404.49	8272.55	8270.10	-400.30	1691932.98	14577905.74	40°08'25.370"N	104°48'56.407"W	2.49	
15905.00	90.430	359.770	7403.81	8362.55	8360.09	-400.98	1691932.11	14577995.70	40°08'26.259"N	104°48'56.416"W	0.46	
15994.00	90.490	360.000	7403.10	8451.54	8449.09	-401.16	1691931.75	14578084.66	40°08'27.139"N	104°48'56.418"W	0.27	
16083.00	90.400	359.260	7402.40	8540.54	8538.09	-401.73	1691930.99	14578173.62	40°08'28.018"N	104°48'56.426"W	0.84	
16173.00	90.430	0.290	7401.75	8630.53	8628.08	-402.09	1691930.44	14578263.58	40°08'28.908"N	104°48'56.430"W	1.14	
16263.00	90.550	1.310	7400.98	8720.51	8718.07	-400.83	1691931.51	14578353.53	40°08'29.797"N	104°48'56.414"W	1.14	
16352.00	90.490	0.980	7400.17	8809.48	8807.05	-399.05	1691933.10	14578442.48	40°08'30.676"N	104°48'56.391"W	0.38	
16442.00	89.660	2.760	7400.06	8899.40	8896.99	-396.12	1691935.85	14578532.40	40°08'31.565"N	104°48'56.353"W	2.18	
16531.00	89.420	2.650	7400.77	8988.27	8985.89	-391.92	1691939.86	14578621.27	40°08'32.443"N	104°48'56.299"W	0.30	
16621.00	89.380	0.800	7401.71	9078.20	9075.84	-389.21	1691942.38	14578711.19	40°08'33.332"N	104°48'56.265"W	2.06	
16710.00	89.480	0.620	7402.60	9167.18	9164.83	-388.10	1691943.30	14578800.14	40°08'34.212"N	104°48'56.250"W	0.23	
16800.00	89.380	0.630	7403.49	9257.16	9254.82	-387.12	1691944.09	14578890.10	40°08'35.101"N	104°48'56.238"W	0.11	
16889.00	89.480	1.060	7404.38	9346.14	9343.81	-385.81	1691945.22	14578979.05	40°08'35.980"N	104°48'56.221"W	0.50	
16979.00	90.220	1.880	7404.62	9436.09	9433.78	-383.50	1691947.34	14579068.99	40°08'36.869"N	104°48'56.191"W	1.23	
17068.00	90.220	2.590	7404.27	9525.00	9522.71	-380.03	1691950.62	14579157.89	40°08'37.748"N	104°48'56.146"W	0.80	
17123.00†	90.196	2.645	7404.07	9579.92	9577.65	-377.52	1691953.02	14579212.82	40°08'38.291"N	104°48'56.114"W	0.11	ENTER RADIUS TOE (450°FNL & 1406°FEL,SEC.18) 40.1439698 -104.8155873
17158.00	90.180	2.680	7403.96	9614.87	9612.61	-375.89	1691954.57	14579247.77	40°08'38.637"N	104°48'56.093"W	0.11	
17248.00	90.120	3.730	7403.72	9704.69	9702.47	-370.86	1691959.41	14579337.60	40°08'39.525"N	104°48'56.028"W	1.17	
17337.00	90.120	3.200	7403.54	9793.49	9791.31	-365.48	1691964.61	14579426.41	40°08'40.403"N	104°48'55.959"W	0.60	
17426.00	90.180	4.000	7403.30	9882.28	9880.13	-359.89	1691970.01	14579515.21	40°08'41.280"N	104°48'55.887"W	0.90	
17499.00	90.120	4.760	7403.11	9955.03	9952.91	-354.32	1691975.43	14579587.98	40°08'42.000"N	104°48'55.815"W	1.04	LAST BHGE MWD+IFR1+MSA SURVEY
17523.00	90.120	4.760	7403.06	9978.93	9976.83	-352.33	1691977.37	14579611.89	40°08'42.236"N	104°48'55.790"W	0.00	PTB (51°FNL & 1380°FEL,SEC.18) 40.1450656 -104.8154972

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#09 CASTLE PINES 19-9HZ(484'FSL & 1018'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-9HZ AWB
Facility	SEC.19-T2N-R66W		

HOLE & CASING SECTIONS - Ref Wellbore: CASTLE PINES 19-9HZ AWB Ref Wellpath: CASTLE PINES 19-9HZ 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	1848.00	1822.00	26.00	1825.43	0.00	0.00	-152.10	-121.63

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	1.11	-120.03	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	polygon
SEC.19-T2N-R66W	2.00	1.11	-120.03	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	polygon
CASTLE PINES 19-9HZ BHL REV-1(49'FNL & 1379'FEL,SEC.18)	7392.00	9978.86	-350.63	1691979.06	14579613.92	40°08'42.256"N	104°48'55.768"W	point
CASTLE PINES 19-9HZ HEEL REV-1(728'FSL & 1305'FEL,SEC.19)	7423.00	294.78	-286.98	1692062.91	14569933.86	40°07'06.557"N	104°48'54.947"W	point
CASTLE PINES 19-9HZ HEEL REV-2(678'FSL & 1305'FEL,SEC.19)	7423.00	244.78	-286.98	1692063.01	14569883.88	40°07'06.063"N	104°48'54.947"W	point
CASTLE PINES 19-9HZ LANDBOX	7423.00	0.00	0.00	1692350.39	14569639.80	40°07'03.644"N	104°48'51.253"W	polygon
CASTLE PINES 19-9HZ RADIUS 1	7423.00	834.06	-300.07	1692048.70	14570472.90	40°07'11.886"N	104°48'55.116"W	polygon
CASTLE PINES 19-9HZ RADIUS 2	7423.00	10029.63	-290.36	1692039.20	14579664.80	40°08'42.758"N	104°48'54.992"W	polygon

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#09 CASTLE PINES 19-9HZ(484'FSL & 1018'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-9HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH COMPOSITION - Ref Wellbore: CASTLE PINES 19-9HZ AWB				Ref Wellpath: CASTLE PINES 19-9HZ AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore
26.00	1808.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <136 - 1808>		CASTLE PINES 19-9HZ AWB
1808.00	17499.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1876 - 17499>		CASTLE PINES 19-9HZ AWB
17499.00	17523.00	Blind Drilling (std)	Projection to bit		CASTLE PINES 19-9HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#09 CASTLE PINES 19-9HZ(484'FSL & 1018'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-9HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
136.00	0.220	175.170	136.00	FIRST SURFACE MWD+IFR1 SURVEY
1808.00	18.150	219.820	1787.33	LAST SURFACE MWD+IFR1 SURVEY
1876.00	16.720	217.300	1852.20	FIRST BHGE MWD+IFR1+MSA SURVEY
6948.00	1.608	356.914	6900.41	KOP
7502.00	59.279	354.922	7358.25	ENTER LANDBOX (460'FSL & 1294'FEL,SEC.19) 40.1176125 -104.8152217
7770.00	89.200	2.070	7423.10	LANDING (716'FSL & 1302'FEL,SEC.19) 40.1183161 -104.8152528
8832.00	90.174	357.535	7427.49	EXIT RADIUS HEEL (1778'FSL & 1313'FEL,SEC.19) 40.1212305 -104.8152893
17123.00	90.196	2.645	7404.07	ENTER RADIUS TOE (450'FNL & 1406'FEL,SEC.18) 40.1439698 -104.8155873
17499.00	90.120	4.760	7403.11	LAST BHGE MWD+IFR1+MSA SURVEY
17523.00	90.120	4.760	7403.06	PTB (51'FNL & 1380'FEL,SEC.18) 40.1450656 -104.8154972