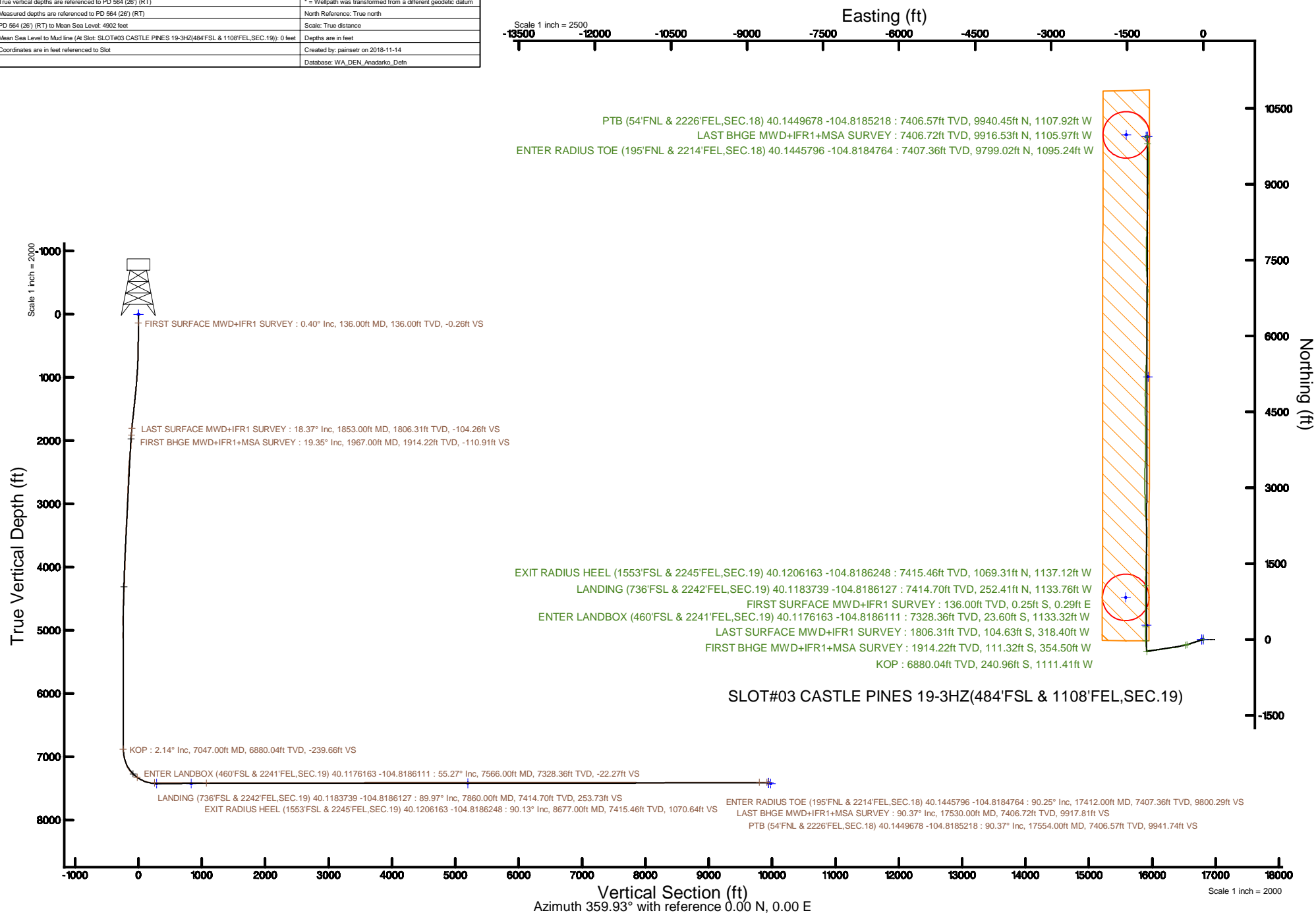


Location:	COLORADO	Well:	SLOT#03 CASTLE PINES 19-3HZ/484FSL & 1108FEL,SEC.19)
Field:	WELD COUNTY (UTM/TRUE NORTH)	Slot:	CASTLE PINES 19-3HZ
Facility:	SEC.19-T2N-R66W	Wellbore:	CASTLE PINES 19-3HZ PWB
Plot reference wellpath is CASTLE PINES 19-3HZ PWP Rev-C		Grid System: NAD83 / UTM Zone 13 North, US 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#03 CASTLE PINES 19-3HZ/484FSL & 1108FEL,SEC.19): 0 feet		Depths are in feet	
Coordinates are in feet referenced to Slot		Created by: painsear on 2018-11-14	
		Database: WA_DEN_Anadarko_Defn	



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#03 CASTLE PINES 19-3HZ(484'FSL & 1108'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-3HZ 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	11/14/2018 at 8:39 AM
Convergence at slot	0.12° East	Database/Source file	WA_DEN_Anadarko_Defn/CASTLE_PINES_19-3HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-0.30	29.99	1692260.38	14569640.42	40°07'03.652"N	104°48'52.412"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#03 CASTLE PINES 19-3HZ(484'FSL & 1108'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	359.93°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#03 CASTLE PINES 19-3HZ(484'FSL & 1108'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-3HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (235 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	131.580	0.00	0.00	0.00	0.00	1692260.38	14569640.42	40°07'03.652"N	104°48'52.412"W	0.00	
26.00	0.000	131.580	26.00	0.00	0.00	0.00	1692260.38	14569640.42	40°07'03.652"N	104°48'52.412"W	0.00	
136.00	0.400	131.580	136.00	-0.26	-0.25	0.29	1692260.67	14569640.17	40°07'03.649"N	104°48'52.408"W	0.36	FIRST SURFACE MWD+IFR1 SURVEY
168.00	0.530	118.830	168.00	-0.40	-0.40	0.50	1692260.88	14569640.02	40°07'03.648"N	104°48'52.406"W	0.52	
199.00	0.750	119.800	199.00	-0.57	-0.57	0.80	1692261.18	14569639.85	40°07'03.646"N	104°48'52.402"W	0.71	
231.00	0.570	119.620	230.99	-0.75	-0.75	1.12	1692261.50	14569639.67	40°07'03.645"N	104°48'52.398"W	0.56	
263.00	0.480	148.280	262.99	-0.95	-0.95	1.33	1692261.71	14569639.48	40°07'03.643"N	104°48'52.395"W	0.86	
290.00	0.350	158.560	289.99	-1.12	-1.12	1.42	1692261.80	14569639.30	40°07'03.641"N	104°48'52.394"W	0.55	
326.00	0.440	172.710	325.99	-1.36	-1.36	1.48	1692261.86	14569639.07	40°07'03.639"N	104°48'52.393"W	0.37	
358.00	0.570	199.250	357.99	-1.63	-1.63	1.44	1692261.82	14569638.79	40°07'03.636"N	104°48'52.393"W	0.83	
390.00	1.140	236.690	389.99	-1.96	-1.96	1.12	1692261.51	14569638.47	40°07'03.633"N	104°48'52.398"W	2.41	
422.00	1.580	242.580	421.98	-2.33	-2.33	0.47	1692260.85	14569638.09	40°07'03.629"N	104°48'52.406"W	1.44	
454.00	2.150	243.460	453.96	-2.80	-2.80	-0.46	1692259.92	14569637.61	40°07'03.624"N	104°48'52.418"W	1.78	
486.00	2.720	254.270	485.93	-3.28	-3.28	-1.73	1692258.66	14569637.14	40°07'03.620"N	104°48'52.434"W	2.28	
517.00	3.340	256.290	516.89	-3.69	-3.69	-3.32	1692257.07	14569636.72	40°07'03.616"N	104°48'52.455"W	2.03	
549.00	4.170	256.820	548.82	-4.17	-4.18	-5.35	1692255.04	14569636.23	40°07'03.611"N	104°48'52.481"W	2.60	
581.00	5.190	256.470	580.71	-4.77	-4.78	-7.89	1692252.50	14569635.62	40°07'03.605"N	104°48'52.514"W	3.19	
612.00	5.980	256.210	611.56	-5.48	-5.50	-10.83	1692249.57	14569634.90	40°07'03.598"N	104°48'52.551"W	2.55	
644.00	6.500	256.210	643.37	-6.31	-6.32	-14.20	1692246.19	14569634.07	40°07'03.590"N	104°48'52.595"W	1.62	
676.00	6.550	255.940	675.17	-7.18	-7.20	-17.73	1692242.67	14569633.19	40°07'03.581"N	104°48'52.640"W	0.18	
739.00	7.600	253.920	737.69	-9.20	-9.23	-25.22	1692235.19	14569631.14	40°07'03.561"N	104°48'52.737"W	1.71	
771.00	8.440	251.810	769.37	-10.51	-10.55	-29.49	1692230.93	14569629.82	40°07'03.548"N	104°48'52.792"W	2.78	
803.00	9.490	251.280	800.98	-12.09	-12.13	-34.22	1692226.20	14569628.23	40°07'03.532"N	104°48'52.852"W	3.29	
834.00	10.200	251.720	831.53	-13.76	-13.81	-39.24	1692221.18	14569626.54	40°07'03.516"N	104°48'52.917"W	2.30	
866.00	11.340	253.830	862.96	-15.52	-15.57	-44.96	1692215.47	14569624.76	40°07'03.498"N	104°48'52.991"W	3.77	
898.00	11.910	253.130	894.31	-17.35	-17.41	-51.14	1692209.30	14569622.91	40°07'03.480"N	104°48'53.070"W	1.83	
930.00	12.880	253.480	925.56	-19.31	-19.38	-57.72	1692202.73	14569620.93	40°07'03.460"N	104°48'53.155"W	3.04	
961.00	12.830	253.390	955.78	-21.27	-21.34	-64.33	1692196.12	14569618.95	40°07'03.441"N	104°48'53.240"W	0.17	
993.00	12.700	252.870	986.99	-23.31	-23.40	-71.09	1692189.36	14569616.88	40°07'03.421"N	104°48'53.327"W	0.54	
1025.00	13.750	253.130	1018.14	-25.44	-25.54	-78.09	1692182.37	14569614.73	40°07'03.400"N	104°48'53.417"W	3.29	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#03 CASTLE PINES 19-3HZ(484'FSL & 1108'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-3HZ AWP
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (235 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
1057.00	14.410	252.950	1049.18	-27.71	-27.81	-85.54	1692174.93	14569612.45	40°07'03.377"N	104°48'53.513"W	2.07	
1088.00	15.860	252.430	1079.10	-30.11	-30.22	-93.27	1692167.21	14569610.02	40°07'03.353"N	104°48'53.613"W	4.70	
1120.00	15.950	251.990	1109.88	-32.78	-32.90	-101.62	1692158.87	14569607.32	40°07'03.327"N	104°48'53.720"W	0.47	
1152.00	15.910	251.550	1140.65	-35.52	-35.64	-109.96	1692150.54	14569604.56	40°07'03.300"N	104°48'53.827"W	0.40	
1184.00	17.010	251.810	1171.34	-38.35	-38.49	-118.57	1692141.94	14569601.69	40°07'03.272"N	104°48'53.938"W	3.45	
1215.00	17.310	251.460	1200.96	-41.23	-41.38	-127.25	1692133.27	14569598.80	40°07'03.243"N	104°48'54.050"W	1.02	
1247.00	18.280	252.950	1231.43	-44.20	-44.36	-136.56	1692123.97	14569595.79	40°07'03.214"N	104°48'54.170"W	3.35	
1279.00	18.410	252.780	1261.80	-47.16	-47.33	-146.18	1692114.35	14569592.81	40°07'03.184"N	104°48'54.294"W	0.44	
1310.00	18.240	252.780	1291.23	-50.03	-50.21	-155.49	1692105.05	14569589.90	40°07'03.156"N	104°48'54.413"W	0.55	
1342.00	18.240	251.990	1321.62	-53.05	-53.24	-165.04	1692095.52	14569586.85	40°07'03.126"N	104°48'54.536"W	0.77	
1373.00	18.330	251.990	1351.06	-56.05	-56.25	-174.29	1692086.28	14569583.83	40°07'03.096"N	104°48'54.655"W	0.29	
1405.00	18.060	252.160	1381.46	-59.11	-59.33	-183.80	1692076.78	14569580.73	40°07'03.066"N	104°48'54.778"W	0.86	
1437.00	18.190	251.020	1411.87	-62.24	-62.47	-193.24	1692067.35	14569577.57	40°07'03.035"N	104°48'54.899"W	1.18	
1468.00	17.800	250.400	1441.35	-65.40	-65.63	-202.28	1692058.32	14569574.39	40°07'03.003"N	104°48'55.016"W	1.40	
1500.00	17.970	250.230	1471.81	-68.70	-68.94	-211.53	1692049.08	14569571.06	40°07'02.971"N	104°48'55.135"W	0.56	
1532.00	18.980	250.840	1502.16	-72.06	-72.32	-221.09	1692039.53	14569567.67	40°07'02.937"N	104°48'55.258"W	3.21	
1563.00	19.380	251.110	1531.43	-75.37	-75.64	-230.72	1692029.91	14569564.33	40°07'02.904"N	104°48'55.382"W	1.32	
1594.00	19.820	250.580	1560.64	-78.77	-79.05	-240.55	1692020.10	14569560.90	40°07'02.871"N	104°48'55.508"W	1.53	
1626.00	19.600	250.980	1590.76	-82.31	-82.61	-250.74	1692009.92	14569557.32	40°07'02.836"N	104°48'55.639"W	0.81	
1658.00	18.590	251.900	1621.00	-85.64	-85.94	-260.66	1692000.00	14569553.97	40°07'02.803"N	104°48'55.767"W	3.29	
1690.00	18.150	252.690	1651.37	-88.69	-89.01	-270.27	1691990.41	14569550.88	40°07'02.772"N	104°48'55.891"W	1.58	
1721.00	18.150	251.810	1680.83	-91.63	-91.95	-279.46	1691981.22	14569547.92	40°07'02.743"N	104°48'56.009"W	0.88	
1753.00	17.970	251.540	1711.25	-94.73	-95.07	-288.88	1691971.81	14569544.78	40°07'02.712"N	104°48'56.130"W	0.62	
1785.00	17.750	251.370	1741.71	-97.84	-98.19	-298.18	1691962.52	14569541.64	40°07'02.682"N	104°48'56.250"W	0.71	
1817.00	18.190	251.990	1772.15	-100.94	-101.30	-307.56	1691953.16	14569538.52	40°07'02.651"N	104°48'56.371"W	1.50	
1848.00	18.540	253.480	1801.57	-103.82	-104.19	-316.88	1691943.84	14569535.61	40°07'02.622"N	104°48'56.491"W	1.89	
1853.00	18.370	254.180	1806.31	-104.26	-104.63	-318.40	1691942.32	14569535.16	40°07'02.618"N	104°48'56.510"W	5.59	LAST SURFACE MWD+IFR1 SURVEY
1967.00	19.350	264.560	1914.22	-110.91	-111.32	-354.50	1691906.26	14569528.40	40°07'02.552"N	104°48'56.975"W	3.06	FIRST BHGE MWD+IFR1+MSA SURVEY
2056.00	17.980	262.770	1998.54	-114.00	-114.45	-382.81	1691877.97	14569525.22	40°07'02.521"N	104°48'57.339"W	1.67	
2146.00	17.860	257.240	2084.18	-118.77	-119.25	-410.05	1691850.74	14569520.37	40°07'02.474"N	104°48'57.690"W	1.89	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#03 CASTLE PINES 19-3HZ(484'FSL & 1108'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-3HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (235 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
2235.00	18.150	251.100	2168.83	-126.24	-126.75	-436.48	1691824.34	14569512.81	40°07'02.399"N	104°48'58.030"W	2.16	
2325.00	18.110	251.470	2254.36	-135.20	-135.74	-463.00	1691797.85	14569503.77	40°07'02.311"N	104°48'58.372"W	0.14	
2414.00	18.130	253.250	2338.95	-143.55	-144.13	-489.38	1691771.50	14569495.33	40°07'02.228"N	104°48'58.711"W	0.62	
2503.00	18.200	257.560	2423.52	-150.51	-151.11	-516.21	1691744.69	14569488.29	40°07'02.159"N	104°48'59.056"W	1.51	
2592.00	16.830	262.710	2508.39	-155.11	-155.74	-542.57	1691718.36	14569483.61	40°07'02.113"N	104°48'59.396"W	2.32	
2682.00	18.110	264.030	2594.24	-158.18	-158.85	-569.40	1691691.54	14569480.45	40°07'02.082"N	104°48'59.741"W	1.49	
2771.00	17.970	264.330	2678.87	-160.95	-161.64	-596.82	1691664.13	14569477.60	40°07'02.055"N	104°49'00.094"W	0.19	
2860.00	18.250	264.680	2763.46	-163.56	-164.29	-624.36	1691636.61	14569474.89	40°07'02.028"N	104°49'00.449"W	0.34	
2950.00	18.180	263.270	2848.95	-166.48	-167.24	-652.34	1691608.66	14569471.88	40°07'01.999"N	104°49'00.809"W	0.50	
3039.00	18.140	262.260	2933.51	-169.94	-170.74	-679.85	1691581.16	14569468.33	40°07'01.965"N	104°49'01.163"W	0.36	
3128.00	18.140	261.320	3018.09	-173.87	-174.69	-707.28	1691553.75	14569464.32	40°07'01.926"N	104°49'01.516"W	0.33	
3218.00	18.200	261.080	3103.60	-178.13	-178.99	-735.01	1691526.04	14569459.97	40°07'01.883"N	104°49'01.873"W	0.11	
3307.00	17.060	261.460	3188.42	-182.19	-183.08	-761.65	1691499.41	14569455.82	40°07'01.843"N	104°49'02.216"W	1.29	
3396.00	18.030	260.500	3273.28	-186.37	-187.29	-788.15	1691472.94	14569451.56	40°07'01.801"N	104°49'02.557"W	1.14	
3486.00	16.870	260.730	3359.14	-190.74	-191.70	-814.78	1691446.33	14569447.10	40°07'01.758"N	104°49'02.900"W	1.29	
3575.00	17.840	263.000	3444.09	-194.45	-195.44	-841.05	1691420.07	14569443.31	40°07'01.721"N	104°49'03.238"W	1.33	
3665.00	18.110	263.380	3529.69	-197.71	-198.73	-868.63	1691392.51	14569439.96	40°07'01.688"N	104°49'03.593"W	0.33	
3754.00	17.280	261.960	3614.48	-201.13	-202.17	-895.46	1691365.70	14569436.46	40°07'01.654"N	104°49'03.938"W	1.05	
3844.00	18.000	260.560	3700.25	-205.25	-206.32	-922.41	1691338.77	14569432.26	40°07'01.613"N	104°49'04.285"W	0.93	
3933.00	17.210	262.210	3785.08	-209.25	-210.36	-949.02	1691312.17	14569428.16	40°07'01.573"N	104°49'04.628"W	1.05	
4022.00	17.860	266.140	3869.95	-211.93	-213.07	-975.69	1691285.53	14569425.40	40°07'01.546"N	104°49'04.971"W	1.52	
4111.00	16.020	265.620	3955.08	-213.75	-214.92	-1001.55	1691259.68	14569423.49	40°07'01.528"N	104°49'05.304"W	2.07	
4201.00	14.520	265.300	4041.90	-215.60	-216.80	-1025.18	1691236.06	14569421.57	40°07'01.509"N	104°49'05.608"W	1.67	
4290.00	12.930	263.360	4128.36	-217.64	-218.86	-1046.19	1691215.06	14569419.46	40°07'01.489"N	104°49'05.878"W	1.86	
4379.00	11.120	258.680	4215.41	-220.45	-221.70	-1064.50	1691196.77	14569416.59	40°07'01.461"N	104°49'06.114"W	2.31	
4469.00	9.530	255.150	4303.95	-224.05	-225.31	-1080.21	1691181.07	14569412.95	40°07'01.425"N	104°49'06.316"W	1.90	
4558.00	7.230	240.790	4392.00	-228.66	-229.94	-1092.22	1691169.07	14569408.30	40°07'01.380"N	104°49'06.471"W	3.48	
4648.00	5.270	232.280	4481.46	-233.94	-235.23	-1100.44	1691160.87	14569402.99	40°07'01.327"N	104°49'06.576"W	2.40	
4826.00	1.900	231.340	4659.09	-240.78	-242.08	-1109.21	1691152.12	14569396.13	40°07'01.260"N	104°49'06.689"W	1.89	
4916.00	0.580	208.350	4749.07	-242.11	-243.41	-1110.59	1691150.74	14569394.79	40°07'01.246"N	104°49'06.707"W	1.54	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#03 CASTLE PINES 19-3HZ(484'FSL & 1108'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-3HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (235 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
5005.00	0.160	318.860	4838.06	-242.41	-243.71	-1110.89	1691150.45	14569394.49	40°07'01.243"N	104°49'06.711"W	0.73	
5095.00	0.100	329.990	4928.06	-242.25	-243.55	-1111.01	1691150.32	14569394.65	40°07'01.245"N	104°49'06.713"W	0.07	
5184.00	0.110	227.730	5017.06	-242.24	-243.54	-1111.11	1691150.22	14569394.66	40°07'01.245"N	104°49'06.714"W	0.18	
5273.00	0.040	329.450	5106.06	-242.27	-243.57	-1111.19	1691150.14	14569394.63	40°07'01.245"N	104°49'06.715"W	0.14	
5362.00	0.090	328.580	5195.06	-242.18	-243.48	-1111.24	1691150.09	14569394.72	40°07'01.246"N	104°49'06.716"W	0.06	
5451.00	0.030	345.150	5284.06	-242.10	-243.40	-1111.29	1691150.05	14569394.80	40°07'01.246"N	104°49'06.716"W	0.07	
5540.00	0.000	8.190	5373.06	-242.08	-243.38	-1111.29	1691150.04	14569394.82	40°07'01.247"N	104°49'06.716"W	0.03	
5630.00	0.070	359.810	5463.06	-242.02	-243.32	-1111.29	1691150.04	14569394.88	40°07'01.247"N	104°49'06.716"W	0.08	
5718.00	0.070	286.700	5551.06	-241.95	-243.25	-1111.34	1691149.99	14569394.95	40°07'01.248"N	104°49'06.717"W	0.09	
5808.00	0.040	28.270	5641.06	-241.91	-243.21	-1111.38	1691149.95	14569394.99	40°07'01.248"N	104°49'06.717"W	0.10	
5897.00	0.070	40.290	5730.06	-241.84	-243.14	-1111.33	1691150.00	14569395.06	40°07'01.249"N	104°49'06.717"W	0.04	
5987.00	0.030	12.130	5820.06	-241.78	-243.08	-1111.29	1691150.04	14569395.12	40°07'01.250"N	104°49'06.716"W	0.05	
6076.00	0.060	353.370	5909.06	-241.71	-243.01	-1111.29	1691150.04	14569395.19	40°07'01.250"N	104°49'06.716"W	0.04	
6166.00	0.040	298.570	5999.06	-241.65	-242.95	-1111.32	1691150.01	14569395.25	40°07'01.251"N	104°49'06.717"W	0.05	
6255.00	0.090	335.560	6088.06	-241.57	-242.87	-1111.38	1691149.95	14569395.33	40°07'01.252"N	104°49'06.717"W	0.07	
6344.00	0.100	324.570	6177.06	-241.44	-242.74	-1111.45	1691149.88	14569395.46	40°07'01.253"N	104°49'06.718"W	0.02	
6433.00	0.090	336.460	6266.06	-241.31	-242.61	-1111.53	1691149.80	14569395.59	40°07'01.254"N	104°49'06.719"W	0.02	
6522.00	0.100	287.910	6355.06	-241.22	-242.53	-1111.63	1691149.70	14569395.67	40°07'01.255"N	104°49'06.720"W	0.09	
6612.00	0.030	186.060	6445.06	-241.22	-242.52	-1111.71	1691149.62	14569395.67	40°07'01.255"N	104°49'06.721"W	0.12	
6701.00	0.090	95.950	6534.06	-241.25	-242.55	-1111.64	1691149.69	14569395.64	40°07'01.255"N	104°49'06.721"W	0.11	
6790.00	0.090	65.070	6623.06	-241.23	-242.53	-1111.51	1691149.82	14569395.67	40°07'01.255"N	104°49'06.719"W	0.05	
6880.00	0.060	58.000	6713.06	-241.18	-242.48	-1111.40	1691149.93	14569395.72	40°07'01.256"N	104°49'06.718"W	0.03	
6969.00	0.070	66.980	6802.06	-241.13	-242.43	-1111.31	1691150.02	14569395.77	40°07'01.256"N	104°49'06.716"W	0.02	
7047.00†	2.141	354.371	6880.04	-239.66	-240.96	-1111.41	1691149.92	14569397.24	40°07'01.271"N	104°49'06.718"W	2.72	KOP
7058.00	2.440	354.150	6891.04	-239.23	-240.53	-1111.46	1691149.87	14569397.67	40°07'01.275"N	104°49'06.718"W	2.72	
7147.00	9.890	358.450	6979.46	-229.69	-230.99	-1111.86	1691149.45	14569407.21	40°07'01.369"N	104°49'06.723"W	8.38	
7236.00	16.350	354.690	7066.09	-209.55	-210.85	-1113.22	1691148.04	14569427.33	40°07'01.568"N	104°49'06.741"W	7.32	
7325.00	25.110	350.560	7149.25	-178.38	-179.69	-1117.49	1691143.71	14569458.47	40°07'01.876"N	104°49'06.796"W	9.97	
7414.00	37.990	351.430	7224.94	-132.47	-133.78	-1124.70	1691136.41	14569504.35	40°07'02.330"N	104°49'06.889"W	14.48	
7503.00	48.710	355.990	7289.58	-71.83	-73.15	-1131.14	1691129.85	14569564.94	40°07'02.929"N	104°49'06.972"W	12.54	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#03 CASTLE PINES 19-3HZ(484'FSL & 1108'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-3HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (235 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
7566.00†	55.266	358.837	7328.36	-22.27	-23.60	-1133.32	1691127.56	14569614.47	40°07'03.419"N	104°49'07.000"W	11.00	ENTER LANDBOX (460'FSL & 2241'FEL,SEC.19) 40.1176163 -104.8186111
7592.00	57.990	359.880	7342.66	-0.56	-1.89	-1133.56	1691127.28	14569636.17	40°07'03.633"N	104°49'07.003"W	11.00	
7682.00	68.310	0.960	7383.25	79.62	78.30	-1132.94	1691127.73	14569716.32	40°07'04.425"N	104°49'06.995"W	11.52	
7771.00	80.380	359.290	7407.23	165.16	163.83	-1132.79	1691127.70	14569801.83	40°07'05.271"N	104°49'06.993"W	13.68	
7860.00	89.970	359.450	7414.70	253.73	252.41	-1133.76	1691126.55	14569890.36	40°07'06.146"N	104°49'07.006"W	10.78	LANDING (736'FSL & 2242'FEL,SEC.19) 40.1183739 -104.8186127
7950.00	89.820	358.340	7414.87	343.72	342.39	-1135.50	1691124.62	14569980.31	40°07'07.035"N	104°49'07.028"W	1.24	
8039.00	89.820	359.270	7415.15	432.70	431.37	-1137.35	1691122.58	14570069.25	40°07'07.915"N	104°49'07.052"W	1.04	
8128.00	89.750	1.670	7415.48	521.69	520.36	-1136.62	1691123.13	14570158.20	40°07'08.794"N	104°49'07.043"W	2.70	
8217.00	89.880	359.970	7415.77	610.67	609.35	-1135.35	1691124.21	14570247.16	40°07'09.673"N	104°49'07.026"W	1.92	
8306.00	90.030	359.480	7415.84	699.67	698.35	-1135.78	1691123.60	14570336.12	40°07'10.553"N	104°49'07.032"W	0.58	
8395.00	89.940	358.880	7415.86	788.67	787.34	-1137.05	1691122.14	14570425.07	40°07'11.432"N	104°49'07.048"W	0.68	
8484.00	90.150	359.390	7415.79	877.66	876.33	-1138.40	1691120.61	14570514.02	40°07'12.312"N	104°49'07.066"W	0.62	
8574.00	90.060	0.490	7415.63	967.65	966.32	-1138.49	1691120.33	14570603.98	40°07'13.201"N	104°49'07.067"W	1.23	
8663.00	90.120	0.960	7415.49	1056.65	1055.32	-1137.36	1691121.27	14570692.94	40°07'14.081"N	104°49'07.052"W	0.53	
8677.00†	90.129	1.004	7415.46	1070.64	1069.31	-1137.12	1691121.48	14570706.93	40°07'14.219"N	104°49'07.049"W	0.32	EXIT RADIUS HEEL (1553'FSL & 2245'FEL,SEC.19) 40.1206163 -104.8186248
8752.00	90.180	1.240	7415.26	1145.63	1144.30	-1135.66	1691122.79	14570781.89	40°07'14.960"N	104°49'07.031"W	0.32	
8841.00	90.150	2.610	7415.00	1234.57	1233.25	-1132.67	1691125.60	14570870.81	40°07'15.839"N	104°49'06.992"W	1.54	
8931.00	90.090	1.140	7414.81	1324.52	1323.20	-1129.72	1691128.35	14570960.73	40°07'16.728"N	104°49'06.954"W	1.63	
9020.00	90.060	359.850	7414.69	1413.51	1412.19	-1128.95	1691128.94	14571049.69	40°07'17.607"N	104°49'06.944"W	1.45	
9109.00	90.280	0.480	7414.43	1502.51	1501.19	-1128.70	1691129.01	14571138.65	40°07'18.487"N	104°49'06.941"W	0.75	
9198.00	90.180	2.070	7414.07	1591.48	1590.16	-1126.72	1691130.80	14571227.60	40°07'19.366"N	104°49'06.916"W	1.79	
9288.00	90.060	3.700	7413.88	1681.36	1680.05	-1122.19	1691135.14	14571317.45	40°07'20.254"N	104°49'06.857"W	1.82	
9377.00	90.090	2.070	7413.77	1770.24	1768.93	-1117.71	1691139.43	14571406.31	40°07'21.133"N	104°49'06.800"W	1.83	
9466.00	90.120	2.440	7413.61	1859.16	1857.86	-1114.20	1691142.75	14571495.21	40°07'22.011"N	104°49'06.755"W	0.42	
9556.00	90.060	1.790	7413.46	1949.10	1947.80	-1110.88	1691145.88	14571585.12	40°07'22.900"N	104°49'06.712"W	0.73	
9645.00	90.250	359.730	7413.22	2038.08	2036.79	-1109.70	1691146.88	14571674.08	40°07'23.780"N	104°49'06.697"W	2.32	
9734.00	90.060	358.270	7412.98	2127.07	2125.77	-1111.26	1691145.14	14571763.02	40°07'24.659"N	104°49'06.717"W	1.65	
9823.00	90.090	357.180	7412.87	2216.00	2214.70	-1114.79	1691141.42	14571851.91	40°07'25.538"N	104°49'06.763"W	1.23	
9913.00	90.180	355.430	7412.65	2305.82	2304.51	-1120.59	1691135.44	14571941.67	40°07'26.425"N	104°49'06.837"W	1.95	
10002.00	90.120	354.910	7412.42	2394.51	2393.19	-1128.08	1691127.76	14572030.30	40°07'27.302"N	104°49'06.934"W	0.59	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#03 CASTLE PINES 19-3HZ(484'FSL & 1108'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-3HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (235 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
10091.00	90.060	355.660	7412.28	2483.22	2481.89	-1135.40	1691120.26	14572118.95	40°07'28.178"N	104°49'07.028"W	0.85	
10181.00	90.090	357.010	7412.16	2573.04	2571.70	-1141.15	1691114.33	14572208.71	40°07'29.066"N	104°49'07.102"W	1.50	
10270.00	90.060	357.910	7412.05	2661.95	2660.61	-1145.10	1691110.20	14572297.58	40°07'29.944"N	104°49'07.153"W	1.01	
10360.00	90.060	359.160	7411.95	2751.92	2750.58	-1147.40	1691107.71	14572387.51	40°07'30.833"N	104°49'07.183"W	1.39	
10449.00	90.000	359.700	7411.91	2840.92	2839.58	-1148.28	1691106.64	14572476.47	40°07'31.713"N	104°49'07.194"W	0.61	
10581.00	90.060	359.340	7411.84	2972.92	2971.57	-1149.39	1691105.26	14572608.41	40°07'33.017"N	104°49'07.208"W	0.28	
10670.00	90.060	359.410	7411.74	3061.91	3060.57	-1150.36	1691104.10	14572697.36	40°07'33.897"N	104°49'07.221"W	0.08	
10759.00	90.060	359.780	7411.65	3150.91	3149.57	-1150.99	1691103.29	14572786.32	40°07'34.776"N	104°49'07.229"W	0.42	
10849.00	90.030	359.710	7411.58	3240.91	3239.56	-1151.39	1691102.70	14572876.28	40°07'35.665"N	104°49'07.234"W	0.08	
10938.00	90.030	1.270	7411.53	3329.90	3328.56	-1150.63	1691103.28	14572965.24	40°07'36.545"N	104°49'07.225"W	1.75	
11027.00	90.150	3.140	7411.39	3418.83	3417.49	-1147.20	1691106.51	14573054.15	40°07'37.424"N	104°49'07.181"W	2.11	
11117.00	89.970	3.730	7411.30	3508.66	3507.33	-1141.81	1691111.72	14573143.96	40°07'38.312"N	104°49'07.111"W	0.69	
11206.00	90.120	2.090	7411.23	3597.54	3596.21	-1137.29	1691116.05	14573232.82	40°07'39.190"N	104°49'07.053"W	1.85	
11296.00	90.090	1.230	7411.06	3687.49	3686.17	-1134.68	1691118.47	14573322.75	40°07'40.079"N	104°49'07.020"W	0.96	
11385.00	90.090	0.540	7410.92	3776.48	3775.16	-1133.31	1691119.65	14573411.70	40°07'40.958"N	104°49'07.002"W	0.78	
11475.00	90.090	0.050	7410.78	3866.48	3865.16	-1132.85	1691119.93	14573501.66	40°07'41.848"N	104°49'06.996"W	0.54	
11564.00	90.120	359.860	7410.62	3955.48	3954.16	-1132.92	1691119.67	14573590.63	40°07'42.727"N	104°49'06.997"W	0.22	
11654.00	90.060	358.940	7410.48	4045.47	4044.15	-1133.86	1691118.54	14573680.58	40°07'43.617"N	104°49'07.009"W	1.02	
11743.00	90.120	359.480	7410.34	4134.47	4133.14	-1135.09	1691117.13	14573769.54	40°07'44.496"N	104°49'07.025"W	0.61	
11833.00	90.000	359.090	7410.24	4224.46	4223.13	-1136.21	1691115.82	14573859.49	40°07'45.385"N	104°49'07.039"W	0.45	
11922.00	90.060	358.450	7410.20	4313.44	4312.11	-1138.12	1691113.73	14573948.43	40°07'46.265"N	104°49'07.064"W	0.72	
12012.00	90.030	359.400	7410.13	4403.43	4402.10	-1139.81	1691111.85	14574038.37	40°07'47.154"N	104°49'07.086"W	1.06	
12101.00	90.030	358.840	7410.08	4492.42	4491.09	-1141.18	1691110.30	14574127.33	40°07'48.033"N	104°49'07.104"W	0.63	
12191.00	90.060	1.650	7410.01	4582.41	4581.08	-1140.79	1691110.50	14574217.28	40°07'48.922"N	104°49'07.099"W	3.12	
12280.00	90.090	0.420	7409.89	4671.39	4670.06	-1139.18	1691111.92	14574306.23	40°07'49.802"N	104°49'07.078"W	1.38	
12370.00	90.060	359.010	7409.78	4761.39	4760.06	-1139.63	1691111.28	14574396.19	40°07'50.691"N	104°49'07.084"W	1.57	
12459.00	90.060	0.150	7409.68	4850.38	4849.05	-1140.28	1691110.45	14574485.15	40°07'51.571"N	104°49'07.092"W	1.28	
12545.00	90.090	0.260	7409.57	4936.38	4935.05	-1139.98	1691110.57	14574571.12	40°07'52.420"N	104°49'07.088"W	0.13	
12638.00	90.000	0.710	7409.50	5029.38	5028.05	-1139.19	1691111.17	14574664.08	40°07'53.339"N	104°49'07.078"W	0.49	
12728.00	90.090	0.860	7409.43	5119.37	5118.04	-1137.95	1691112.21	14574754.03	40°07'54.229"N	104°49'07.062"W	0.19	



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#03 CASTLE PINES 19-3HZ(484'FSL & 1108'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-3HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (235 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
12817.00	90.000	1.740	7409.36	5208.34	5207.02	-1135.94	1691114.04	14574842.98	40°07'55.108"N	104°49'07.037"W	0.99	
12907.00	90.090	3.080	7409.29	5298.25	5296.93	-1132.15	1691117.64	14574932.87	40°07'55.997"N	104°49'06.988"W	1.49	
12996.00	89.970	4.000	7409.24	5387.08	5385.76	-1126.66	1691122.95	14575021.67	40°07'56.874"N	104°49'06.917"W	1.04	
13086.00	90.250	3.630	7409.07	5476.87	5475.56	-1120.67	1691128.75	14575111.45	40°07'57.762"N	104°49'06.840"W	0.52	
13175.00	90.090	2.570	7408.80	5565.73	5564.43	-1115.86	1691133.37	14575200.29	40°07'58.640"N	104°49'06.778"W	1.20	
13265.00	90.060	1.470	7408.68	5655.67	5654.37	-1112.68	1691136.36	14575290.21	40°07'59.529"N	104°49'06.737"W	1.22	
13354.00	90.220	1.140	7408.47	5744.65	5743.35	-1110.66	1691138.20	14575379.15	40°08'00.408"N	104°49'06.711"W	0.41	
13443.00	90.000	359.320	7408.30	5833.64	5832.35	-1110.30	1691138.37	14575468.11	40°08'01.288"N	104°49'06.707"W	2.06	
13533.00	90.150	358.860	7408.18	5923.63	5922.33	-1111.73	1691136.75	14575558.06	40°08'02.177"N	104°49'06.725"W	0.54	
13622.00	90.150	359.530	7407.94	6012.62	6011.32	-1112.98	1691135.32	14575647.01	40°08'03.056"N	104°49'06.741"W	0.75	
13712.00	90.220	359.490	7407.65	6102.62	6101.32	-1113.75	1691134.36	14575736.97	40°08'03.946"N	104°49'06.751"W	0.09	
13801.00	90.150	0.580	7407.37	6191.62	6190.32	-1113.69	1691134.23	14575825.93	40°08'04.825"N	104°49'06.751"W	1.23	
13890.00	90.150	0.630	7407.13	6280.61	6279.31	-1112.75	1691134.98	14575914.90	40°08'05.705"N	104°49'06.739"W	0.06	
13979.00	90.030	359.910	7406.99	6369.61	6368.31	-1112.33	1691135.22	14576003.86	40°08'06.584"N	104°49'06.733"W	0.82	
14069.00	90.220	1.470	7406.80	6459.60	6458.30	-1111.25	1691136.11	14576093.82	40°08'07.473"N	104°49'06.719"W	1.75	
14158.00	90.000	2.650	7406.63	6548.53	6547.24	-1108.05	1691139.12	14576182.73	40°08'08.352"N	104°49'06.678"W	1.35	
14248.00	89.970	2.180	7406.65	6638.45	6637.16	-1104.26	1691142.73	14576272.62	40°08'09.241"N	104°49'06.630"W	0.52	
14337.00	90.000	1.810	7406.67	6727.39	6726.11	-1101.16	1691145.64	14576361.54	40°08'10.120"N	104°49'06.590"W	0.42	
14427.00	89.910	0.860	7406.74	6817.36	6816.08	-1099.06	1691147.55	14576451.48	40°08'11.009"N	104°49'06.563"W	1.06	
14516.00	89.820	359.880	7406.95	6906.36	6905.08	-1098.49	1691147.94	14576540.44	40°08'11.888"N	104°49'06.555"W	1.11	
14606.00	89.940	359.380	7407.14	6996.36	6995.08	-1099.07	1691147.17	14576630.40	40°08'12.778"N	104°49'06.563"W	0.57	
14695.00	89.970	356.970	7407.21	7085.31	7084.03	-1101.90	1691144.15	14576719.31	40°08'13.657"N	104°49'06.599"W	2.71	
14784.00	89.660	355.520	7407.50	7174.12	7172.83	-1107.73	1691138.14	14576808.07	40°08'14.534"N	104°49'06.675"W	1.67	
14871.00	89.660	356.160	7408.02	7260.90	7259.60	-1114.04	1691131.65	14576894.79	40°08'15.392"N	104°49'06.756"W	0.74	
14963.00	89.720	357.850	7408.51	7352.77	7351.47	-1118.85	1691126.65	14576986.61	40°08'16.300"N	104°49'06.818"W	1.84	
15053.00	89.750	358.830	7408.93	7442.74	7441.43	-1121.46	1691123.86	14577076.53	40°08'17.189"N	104°49'06.851"W	1.09	
15143.00	89.690	1.020	7409.37	7532.73	7531.42	-1121.58	1691123.55	14577166.49	40°08'18.078"N	104°49'06.853"W	2.43	
15232.00	89.690	1.260	7409.85	7621.71	7620.41	-1119.81	1691125.14	14577255.43	40°08'18.957"N	104°49'06.830"W	0.27	
15322.00	89.660	1.130	7410.36	7711.69	7710.38	-1117.93	1691126.83	14577345.38	40°08'19.847"N	104°49'06.806"W	0.15	
15411.00	89.690	0.750	7410.87	7800.67	7799.37	-1116.47	1691128.10	14577434.33	40°08'20.726"N	104°49'06.787"W	0.43	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#03 CASTLE PINES 19-3HZ(484'FSL & 1108'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-3HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (235 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
15501.00	89.630	0.400	7411.40	7890.66	7889.36	-1115.56	1691128.82	14577524.29	40°08'21.615"N	104°49'06.776"W	0.39	
15590.00	90.120	0.090	7411.60	7979.66	7978.36	-1115.18	1691129.01	14577613.26	40°08'22.495"N	104°49'06.771"W	0.65	
15679.00	90.030	1.800	7411.48	8068.64	8067.35	-1113.72	1691130.29	14577702.21	40°08'23.374"N	104°49'06.752"W	1.92	
15769.00	90.030	2.020	7411.43	8158.59	8157.30	-1110.72	1691133.10	14577792.13	40°08'24.263"N	104°49'06.714"W	0.24	
15859.00	90.060	1.740	7411.36	8248.54	8247.25	-1107.76	1691135.87	14577882.05	40°08'25.152"N	104°49'06.676"W	0.31	
15948.00	90.120	2.070	7411.22	8337.49	8336.20	-1104.81	1691138.64	14577970.97	40°08'26.031"N	104°49'06.638"W	0.38	
16127.00	90.030	1.970	7410.99	8516.37	8515.09	-1098.50	1691144.57	14578149.80	40°08'27.799"N	104°49'06.556"W	0.08	
16216.00	90.090	3.200	7410.89	8605.27	8604.00	-1094.48	1691148.40	14578238.68	40°08'28.677"N	104°49'06.505"W	1.38	
16306.00	90.090	1.580	7410.75	8695.18	8693.91	-1090.73	1691151.96	14578328.57	40°08'29.566"N	104°49'06.456"W	1.80	
16395.00	90.060	359.760	7410.64	8784.17	8782.90	-1089.69	1691152.82	14578417.53	40°08'30.445"N	104°49'06.443"W	2.05	
16485.00	90.180	359.220	7410.45	8874.17	8872.90	-1090.49	1691151.83	14578507.49	40°08'31.335"N	104°49'06.453"W	0.61	
16575.00	90.090	0.430	7410.24	8964.17	8962.90	-1090.76	1691151.37	14578597.45	40°08'32.224"N	104°49'06.457"W	1.35	
16664.00	90.060	2.790	7410.12	9053.12	9051.86	-1088.26	1691153.68	14578686.38	40°08'33.103"N	104°49'06.425"W	2.65	
16754.00	90.250	2.700	7409.88	9143.01	9141.75	-1083.95	1691157.80	14578776.25	40°08'33.991"N	104°49'06.369"W	0.23	
16843.00	90.150	1.190	7409.56	9231.96	9230.70	-1080.93	1691160.64	14578865.16	40°08'34.870"N	104°49'06.331"W	1.70	
16933.00	90.310	359.090	7409.20	9321.95	9320.69	-1080.71	1691160.67	14578955.12	40°08'35.760"N	104°49'06.328"W	2.34	
17022.00	90.150	0.410	7408.85	9410.95	9409.69	-1081.10	1691160.10	14579044.08	40°08'36.639"N	104°49'06.333"W	1.49	
17112.00	90.220	1.110	7408.56	9500.94	9499.68	-1079.91	1691161.10	14579134.04	40°08'37.529"N	104°49'06.318"W	0.78	
17201.00	90.280	359.240	7408.17	9589.93	9588.67	-1079.64	1691161.19	14579223.00	40°08'38.408"N	104°49'06.314"W	2.10	
17291.00	90.180	355.330	7407.81	9679.82	9678.56	-1083.90	1691156.74	14579312.83	40°08'39.296"N	104°49'06.369"W	4.35	
17380.00	90.220	354.170	7407.49	9768.45	9767.18	-1092.04	1691148.41	14579401.41	40°08'40.172"N	104°49'06.474"W	1.30	
17412.00†	90.252	354.362	7407.36	9800.29	9799.02	-1095.24	1691145.15	14579433.23	40°08'40.487"N	104°49'06.515"W	0.61	ENTER RADIUS TOE (195'FNL & 2214'FEL, SEC.18) 40.1445796 -104.8184764
17470.00	90.310	354.710	7407.08	9858.04	9856.76	-1100.76	1691139.51	14579490.93	40°08'41.057"N	104°49'06.586"W	0.61	
17530.00	90.370	355.330	7406.72	9917.81	9916.53	-1105.97	1691134.18	14579550.66	40°08'41.648"N	104°49'06.653"W	1.04	LAST BHGE MWD+IFR1+MSA SURVEY
17554.00	90.370	355.330	7406.57	9941.74	9940.45	-1107.92	1691132.18	14579574.57	40°08'41.884"N	104°49'06.679"W	0.00	PTB (54'FNL & 2226'FEL, SEC.18) 40.1449678 -104.8185218

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#03 CASTLE PINES 19-3HZ(484'FSL & 1108'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-3HZ AWB
Facility	SEC.19-T2N-R66W		

HOLE & CASING SECTIONS - Ref Wellbore: CASTLE PINES 19-3HZ AWB Ref Wellpath: CASTLE PINES 19-3HZ 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	1893.00	1867.00	26.00	1844.25	0.00	0.00	-107.69	-330.72

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	0.30	-29.99	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	polygon
SEC.19-T2N-R66W	2.00	0.30	-29.99	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	polygon
CASTLE PINES 19-3HZ BHL REV-1(52'FNL & 2249'FEL,SEC.18)	7415.00	9941.96	-1131.18	1691108.93	14579576.04	40°08'41.899"N	104°49'06.978"W	point
CASTLE PINES 19-3HZ BHL REV-2(52'FNL & 2219'FEL,SEC.18)	7415.00	9941.94	-1101.18	1691138.92	14579576.08	40°08'41.899"N	104°49'06.592"W	point
CASTLE PINES 19-3HZ BHL REV-3(52'FNL & 2219'FEL,SEC.18)	7416.00	9941.94	-1101.18	1691138.92	14579576.08	40°08'41.899"N	104°49'06.592"W	point
CASTLE PINES 19-3HZ LAT. TARGET	7419.92	5194.90	-1089.62	1691160.37	14574830.96	40°07'54.988"N	104°49'06.440"W	point
CASTLE PINES 19-3HZ HEEL REV-1(767'FSL & 2228'FEL,SEC.19)	7425.00	283.77	-1119.87	1691140.37	14569921.74	40°07'06.456"N	104°49'06.827"W	point
CASTLE PINES 19-3HZ LANDBOX	7425.00	0.00	0.00	1692260.38	14569640.42	40°07'03.652"N	104°48'52.412"W	polygon
CASTLE PINES 19-3HZ RADIUS 1	7425.00	830.60	-1529.26	1690730.00	14570467.50	40°07'11.860"N	104°49'12.097"W	polygon
CASTLE PINES 19-3HZ RADIUS 2	7425.00	9979.55	-1519.19	1690721.00	14579612.80	40°08'42.270"N	104°49'11.974"W	polygon

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#03 CASTLE PINES 19-3HZ(484'FSL & 1108'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-3HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH COMPOSITION - Ref Wellbore: CASTLE PINES 19-3HZ AWB				Ref Wellpath: CASTLE PINES 19-3HZ AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore
26.00	1853.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <136 - 1853>		CASTLE PINES 19-3HZ AWB
1853.00	17530.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1967 - 17530>		CASTLE PINES 19-3HZ AWB
17530.00	17554.00	Blind Drilling (std)	Projection to bit		CASTLE PINES 19-3HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#03 CASTLE PINES 19-3HZ(484'FSL & 1108'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-3HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
136.00	0.400	131.580	136.00	FIRST SURFACE MWD+IFR1 SURVEY
1853.00	18.370	254.180	1806.31	LAST SURFACE MWD+IFR1 SURVEY
1967.00	19.350	264.560	1914.22	FIRST BHGE MWD+IFR1+MSA SURVEY
7047.00	2.141	354.371	6880.04	KOP
7566.00	55.266	358.837	7328.36	ENTER LANDBOX (460'FSL & 2241'FEL,SEC.19) 40.1176163 -104.8186111
7860.00	89.970	359.450	7414.70	LANDING (736'FSL & 2242'FEL,SEC.19) 40.1183739 -104.8186127
8677.00	90.129	1.004	7415.46	EXIT RADIUS HEEL (1553'FSL & 2245'FEL,SEC.19) 40.1206163 -104.8186248
17412.00	90.252	354.362	7407.36	ENTER RADIUS TOE (195'FNL & 2214'FEL,SEC.18) 40.1445796 -104.8184764
17530.00	90.370	355.330	7406.72	LAST BHGE MWD+IFR1+MSA SURVEY
17554.00	90.370	355.330	7406.57	PTB (54'FNL & 2226'FEL,SEC.18) 40.1449678 -104.8185218