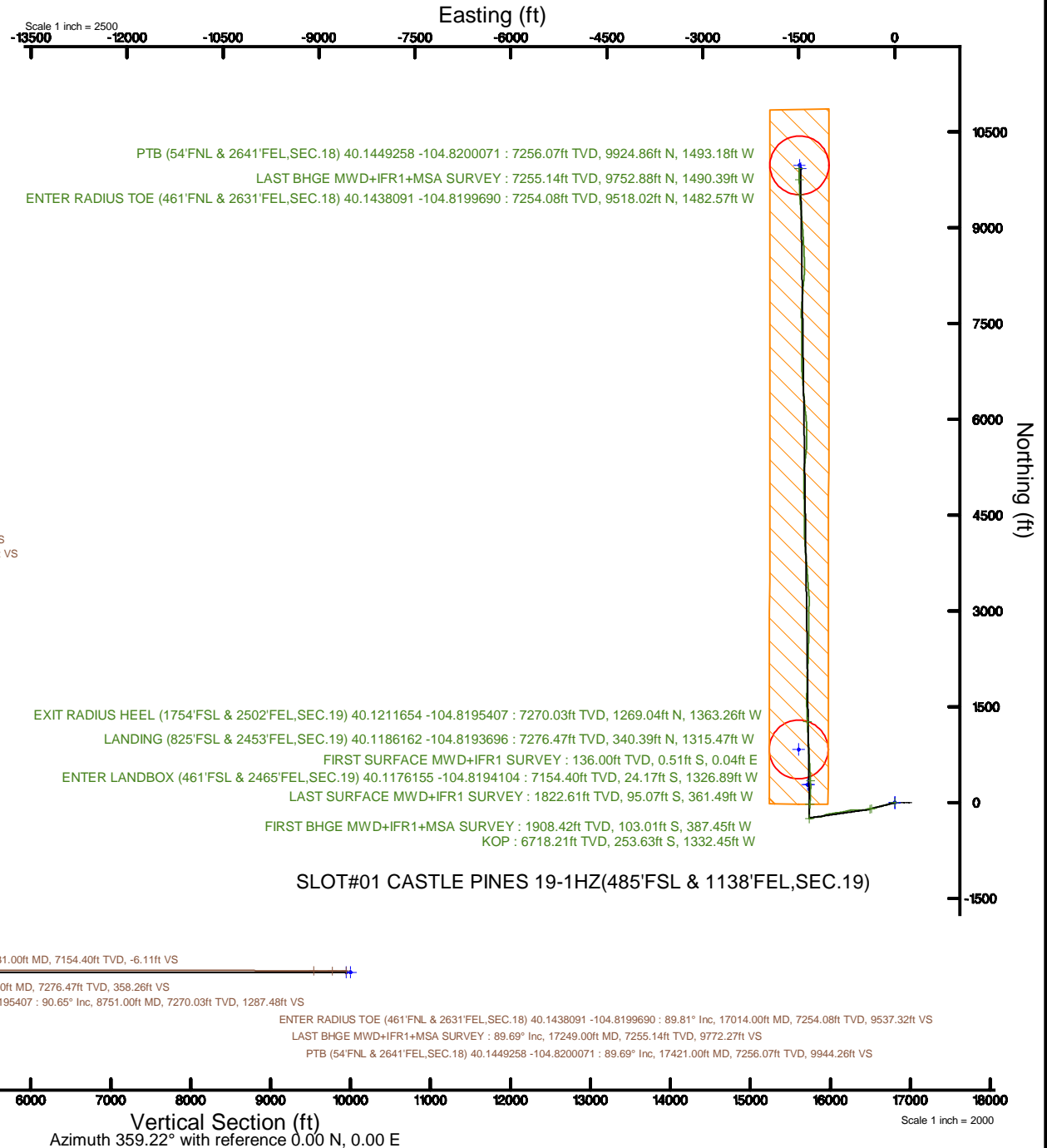


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19)
Field: WELD COUNTY (UTM/TRUE NORTH) Well: CASTLE PINES 19-1HZ
Facility: SEC.19-T2N-R66W Wellbore: CASTLE PINES 19-1HZ PWB

Plot reference wellpath is CASTLE PINES 19-1HZ PWP Rev-A.0	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 geodetic datum
Measured depths are referenced to PD 564 (26) (RT)	North Reference: True north
PD 564 (26) (RT) to Mean Sea Level: 4900 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2018-11-02
	Database: WA_DEN_Anadarko_Defn



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-1HZ 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	11/2/2018 at 8:23 AM
Convergence at slot	0.12° East	Database/Source file	WA_DEN_Anadarko_Defn/CASTLE_PINES_19-1HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"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	4900.00ft
Horizontal Reference Pt	Slot	PD 564 (26') (RT) to Mean Sea Level	4900.00ft
Vertical Reference Pt	PD 564 (26') (RT)	PD 564 (26') (RT) to Mud Line at Slot (SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19))	4900.00ft
MD Reference Pt	PD 564 (26') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.22°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-1HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (232 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	175.300	0.00	0.00	0.00	0.00	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	0.00	
26.00	0.000	175.300	26.00	0.00	0.00	0.00	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	0.00	
136.00	0.530	175.300	136.00	-0.51	-0.51	0.04	1692230.45	14569640.15	40°07'03.650"N	104°48'52.797"W	0.48	FIRST SURFACE MWD+IFR1 SURVEY
168.00	0.440	326.960	168.00	-0.55	-0.55	-0.01	1692230.39	14569640.11	40°07'03.650"N	104°48'52.798"W	2.94	
199.00	0.830	188.440	199.00	-0.67	-0.67	-0.11	1692230.29	14569639.99	40°07'03.648"N	104°48'52.799"W	3.86	
231.00	1.360	216.740	230.99	-1.20	-1.21	-0.37	1692230.03	14569639.45	40°07'03.643"N	104°48'52.803"W	2.32	
263.00	1.710	215.070	262.98	-1.89	-1.90	-0.87	1692229.53	14569638.76	40°07'03.636"N	104°48'52.809"W	1.10	
295.00	2.150	220.260	294.96	-2.73	-2.75	-1.54	1692228.87	14569637.91	40°07'03.628"N	104°48'52.818"W	1.48	
326.00	2.200	219.820	325.94	-3.62	-3.65	-2.29	1692228.12	14569637.01	40°07'03.619"N	104°48'52.828"W	0.17	
358.00	2.240	230.450	357.92	-4.48	-4.52	-3.17	1692227.25	14569636.13	40°07'03.610"N	104°48'52.839"W	1.29	
390.00	2.990	234.760	389.88	-5.34	-5.40	-4.33	1692226.08	14569635.25	40°07'03.602"N	104°48'52.854"W	2.42	
422.00	2.860	236.690	421.84	-6.24	-6.32	-5.68	1692224.74	14569634.33	40°07'03.593"N	104°48'52.871"W	0.51	
454.00	3.870	248.820	453.78	-7.05	-7.15	-7.36	1692223.07	14569633.50	40°07'03.584"N	104°48'52.893"W	3.84	
486.00	4.480	253.130	485.70	-7.77	-7.90	-9.56	1692220.87	14569632.74	40°07'03.577"N	104°48'52.921"W	2.14	
517.00	5.270	261.390	516.59	-8.30	-8.47	-12.12	1692218.30	14569632.17	40°07'03.571"N	104°48'52.954"W	3.40	
549.00	6.330	263.590	548.42	-8.68	-8.88	-15.33	1692215.10	14569631.75	40°07'03.567"N	104°48'52.995"W	3.38	
581.00	6.500	264.640	580.22	-8.99	-9.25	-18.89	1692211.54	14569631.37	40°07'03.564"N	104°48'53.041"W	0.65	
612.00	7.560	264.240	610.99	-9.31	-9.62	-22.66	1692207.77	14569631.00	40°07'03.560"N	104°48'53.090"W	3.42	
644.00	8.790	261.210	642.66	-9.83	-10.20	-27.17	1692203.26	14569630.40	40°07'03.554"N	104°48'53.148"W	4.07	
676.00	9.670	258.310	674.25	-10.68	-11.12	-32.22	1692198.22	14569629.48	40°07'03.545"N	104°48'53.213"W	3.11	
707.00	10.060	256.560	704.79	-11.77	-12.28	-37.41	1692193.04	14569628.31	40°07'03.534"N	104°48'53.279"W	1.59	
739.00	10.590	257.170	736.27	-13.00	-13.58	-42.99	1692187.46	14569626.99	40°07'03.521"N	104°48'53.351"W	1.69	
771.00	10.630	256.210	767.73	-14.27	-14.94	-48.72	1692181.73	14569625.63	40°07'03.507"N	104°48'53.425"W	0.57	
803.00	11.520	256.380	799.13	-15.65	-16.39	-54.70	1692175.76	14569624.16	40°07'03.493"N	104°48'53.502"W	2.78	
834.00	12.570	255.680	829.45	-17.13	-17.96	-60.97	1692169.49	14569622.58	40°07'03.478"N	104°48'53.583"W	3.42	
866.00	13.010	255.330	860.65	-18.81	-19.73	-67.83	1692162.64	14569620.80	40°07'03.460"N	104°48'53.671"W	1.40	
898.00	13.140	254.270	891.82	-20.61	-21.63	-74.82	1692155.66	14569618.88	40°07'03.441"N	104°48'53.761"W	0.85	
930.00	13.580	254.010	922.96	-22.53	-23.65	-81.93	1692148.56	14569616.85	40°07'03.421"N	104°48'53.853"W	1.39	
961.00	15.070	254.450	952.99	-24.52	-25.73	-89.31	1692141.18	14569614.75	40°07'03.401"N	104°48'53.948"W	4.82	
993.00	15.600	254.450	983.85	-26.67	-28.00	-97.46	1692133.04	14569612.47	40°07'03.378"N	104°48'54.053"W	1.66	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-1HZ AWP
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (232 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	16.040	254.270	1014.64	-28.91	-30.35	-105.87	1692124.64	14569610.10	40°07'03.355"N	104°48'54.161"W	1.38	
1057.00	16.390	254.270	1045.37	-31.22	-32.78	-114.47	1692116.05	14569607.66	40°07'03.331"N	104°48'54.271"W	1.09	
1088.00	16.700	253.830	1075.08	-33.53	-35.20	-122.95	1692107.57	14569605.22	40°07'03.307"N	104°48'54.381"W	1.08	
1120.00	17.180	254.010	1105.70	-35.99	-37.79	-131.91	1692098.62	14569602.62	40°07'03.282"N	104°48'54.496"W	1.51	
1152.00	17.840	256.290	1136.21	-38.32	-40.25	-141.22	1692089.33	14569600.13	40°07'03.257"N	104°48'54.616"W	2.97	
1184.00	18.370	257.000	1166.63	-40.49	-42.55	-150.89	1692079.66	14569597.82	40°07'03.235"N	104°48'54.740"W	1.79	
1215.00	18.680	256.820	1196.02	-42.59	-44.78	-160.49	1692070.07	14569595.57	40°07'03.213"N	104°48'54.864"W	1.02	
1247.00	18.810	256.030	1226.33	-44.86	-47.19	-170.48	1692060.09	14569593.13	40°07'03.189"N	104°48'54.992"W	0.89	
1279.00	18.060	255.770	1256.68	-47.20	-49.65	-180.30	1692050.28	14569590.65	40°07'03.164"N	104°48'55.119"W	2.36	
1310.00	17.450	255.590	1286.21	-49.41	-51.99	-189.46	1692041.13	14569588.29	40°07'03.141"N	104°48'55.237"W	1.98	
1342.00	17.750	255.850	1316.71	-51.67	-54.38	-198.83	1692031.76	14569585.89	40°07'03.118"N	104°48'55.357"W	0.97	
1373.00	18.240	255.150	1346.19	-53.94	-56.78	-208.11	1692022.50	14569583.47	40°07'03.094"N	104°48'55.477"W	1.73	
1405.00	18.850	255.240	1376.53	-56.41	-59.38	-217.95	1692012.67	14569580.85	40°07'03.068"N	104°48'55.603"W	1.91	
1437.00	18.110	256.380	1406.88	-58.76	-61.87	-227.78	1692002.85	14569578.34	40°07'03.044"N	104°48'55.730"W	2.57	
1468.00	18.110	256.820	1436.34	-60.87	-64.10	-237.15	1691993.48	14569576.09	40°07'03.022"N	104°48'55.851"W	0.44	
1500.00	18.500	256.730	1466.72	-63.03	-66.40	-246.94	1691983.71	14569573.77	40°07'02.999"N	104°48'55.976"W	1.22	
1532.00	19.030	257.440	1497.02	-65.19	-68.70	-256.97	1691973.68	14569571.45	40°07'02.976"N	104°48'56.106"W	1.80	
1563.00	19.600	257.440	1526.28	-67.29	-70.93	-266.98	1691963.68	14569569.20	40°07'02.954"N	104°48'56.234"W	1.84	
1594.00	19.160	257.880	1555.52	-69.35	-73.13	-277.03	1691953.64	14569566.99	40°07'02.932"N	104°48'56.364"W	1.50	
1626.00	18.900	258.050	1585.77	-71.39	-75.30	-287.23	1691943.44	14569564.79	40°07'02.911"N	104°48'56.495"W	0.83	
1658.00	18.060	256.380	1616.12	-73.49	-77.54	-297.12	1691933.56	14569562.53	40°07'02.889"N	104°48'56.622"W	3.10	
1690.00	17.800	254.970	1646.57	-75.80	-79.98	-306.67	1691924.03	14569560.07	40°07'02.865"N	104°48'56.745"W	1.58	
1721.00	17.930	255.150	1676.07	-78.12	-82.43	-315.86	1691914.85	14569557.60	40°07'02.840"N	104°48'56.864"W	0.46	
1753.00	18.500	254.710	1706.47	-80.59	-85.03	-325.51	1691905.20	14569554.98	40°07'02.815"N	104°48'56.988"W	1.83	
1785.00	17.930	254.180	1736.87	-83.14	-87.72	-335.15	1691895.57	14569552.28	40°07'02.788"N	104°48'57.112"W	1.85	
1817.00	17.620	254.450	1767.34	-85.66	-90.36	-344.56	1691886.17	14569549.62	40°07'02.762"N	104°48'57.233"W	1.00	
1848.00	17.670	254.540	1796.88	-88.05	-92.87	-353.61	1691877.13	14569547.09	40°07'02.737"N	104°48'57.350"W	0.18	
1875.00	17.620	254.270	1822.61	-90.14	-95.07	-361.49	1691869.25	14569544.88	40°07'02.715"N	104°48'57.451"W	0.36	LAST SURFACE MWD+IFR1 SURVEY
1965.00	17.500	251.700	1908.42	-97.73	-103.01	-387.45	1691843.32	14569536.88	40°07'02.637"N	104°48'57.785"W	0.87	FIRST BHGE MWD+IFR1+MSA SURVEY
2055.00	17.880	257.590	1994.17	-104.59	-110.23	-413.79	1691817.00	14569529.61	40°07'02.566"N	104°48'58.124"W	2.03	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-1HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (232 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
2144.00	17.800	263.120	2078.90	-108.79	-114.79	-440.65	1691790.17	14569524.99	40°07'02.521"N	104°48'58.470"W	1.91	
2234.00	17.620	269.630	2164.64	-110.15	-116.53	-467.93	1691762.91	14569523.20	40°07'02.503"N	104°48'58.821"W	2.21	
2323.00	17.900	271.880	2249.40	-109.42	-116.17	-495.07	1691735.78	14569523.51	40°07'02.507"N	104°48'59.170"W	0.83	
2413.00	17.980	265.410	2335.03	-109.70	-116.83	-522.74	1691708.12	14569522.79	40°07'02.500"N	104°48'59.527"W	2.22	
2502.00	16.120	265.030	2420.12	-111.52	-119.00	-548.74	1691682.13	14569520.57	40°07'02.479"N	104°48'59.861"W	2.09	
2592.00	13.610	271.280	2507.10	-112.05	-119.84	-571.78	1691659.10	14569519.67	40°07'02.471"N	104°49'00.158"W	3.31	
2681.00	15.590	275.330	2593.23	-110.40	-118.50	-594.16	1691636.73	14569520.97	40°07'02.484"N	104°49'00.446"W	2.50	
2770.00	19.000	275.800	2678.19	-107.46	-115.92	-620.49	1691610.40	14569523.49	40°07'02.509"N	104°49'00.785"W	3.83	
2859.00	19.000	268.560	2762.35	-105.97	-114.82	-649.39	1691581.51	14569524.53	40°07'02.520"N	104°49'01.157"W	2.65	
2949.00	19.040	261.000	2847.45	-108.24	-117.49	-678.54	1691552.38	14569521.81	40°07'02.494"N	104°49'01.532"W	2.74	
3038.00	18.920	253.240	2931.63	-114.29	-123.92	-706.70	1691524.24	14569515.32	40°07'02.430"N	104°49'01.894"W	2.84	
3127.00	19.000	252.880	3015.80	-122.34	-132.35	-734.36	1691496.61	14569506.84	40°07'02.347"N	104°49'02.250"W	0.16	
3217.00	19.020	256.290	3100.89	-129.74	-140.13	-762.61	1691468.39	14569498.99	40°07'02.270"N	104°49'02.614"W	1.23	
3306.00	17.860	261.710	3185.33	-134.77	-145.54	-790.21	1691440.81	14569493.53	40°07'02.217"N	104°49'02.969"W	2.32	
3396.00	18.990	260.870	3270.71	-138.70	-149.85	-818.33	1691412.72	14569489.16	40°07'02.174"N	104°49'03.331"W	1.29	
3485.00	18.240	260.370	3355.06	-142.95	-154.48	-846.36	1691384.71	14569484.48	40°07'02.128"N	104°49'03.692"W	0.86	
3574.00	18.460	267.200	3439.54	-145.59	-157.50	-874.16	1691356.92	14569481.40	40°07'02.098"N	104°49'04.050"W	2.43	
3664.00	18.860	263.640	3524.81	-147.50	-159.81	-902.85	1691328.24	14569479.04	40°07'02.076"N	104°49'04.419"W	1.34	
3753.00	19.130	258.720	3608.97	-151.56	-164.25	-931.45	1691299.66	14569474.53	40°07'02.032"N	104°49'04.787"W	1.82	
3842.00	17.610	257.260	3693.44	-157.01	-170.08	-958.89	1691272.25	14569468.66	40°07'01.974"N	104°49'05.141"W	1.78	
3931.00	16.720	262.200	3778.47	-161.36	-174.78	-984.71	1691246.46	14569463.90	40°07'01.928"N	104°49'05.473"W	1.92	
4020.00	18.990	264.210	3863.18	-164.19	-177.98	-1011.80	1691219.38	14569460.64	40°07'01.896"N	104°49'05.822"W	2.64	
4109.00	18.910	257.010	3947.37	-168.51	-182.68	-1040.26	1691190.94	14569455.88	40°07'01.849"N	104°49'06.188"W	2.63	
4199.00	18.990	250.050	4032.50	-176.40	-190.96	-1068.24	1691162.99	14569447.55	40°07'01.768"N	104°49'06.548"W	2.51	
4288.00	18.010	243.590	4116.91	-187.11	-202.02	-1094.18	1691137.08	14569436.44	40°07'01.658"N	104°49'06.882"W	2.55	
4377.00	17.940	247.760	4201.57	-198.07	-213.33	-1119.19	1691112.11	14569425.08	40°07'01.547"N	104°49'07.204"W	1.45	
4467.00	16.530	255.430	4287.54	-206.20	-221.80	-1144.42	1691086.91	14569416.57	40°07'01.463"N	104°49'07.529"W	2.97	
4556.00	14.800	270.620	4373.27	-208.94	-224.86	-1168.05	1691063.29	14569413.46	40°07'01.433"N	104°49'07.833"W	4.98	
4645.00	17.740	274.180	4458.70	-207.49	-223.75	-1192.94	1691038.40	14569414.51	40°07'01.444"N	104°49'08.153"W	3.49	
4735.00	16.290	269.470	4544.76	-206.25	-222.87	-1219.24	1691012.11	14569415.34	40°07'01.452"N	104°49'08.492"W	2.22	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-1HZ AWP
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (232 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
4824.00	15.960	260.150	4630.27	-208.12	-225.08	-1243.79	1690987.59	14569413.08	40°07'01.430"N	104°49'08.808"W	2.93	
4913.00	14.050	247.490	4716.26	-214.05	-231.31	-1265.83	1690965.56	14569406.81	40°07'01.369"N	104°49'09.091"W	4.25	
5002.00	11.800	242.360	4803.00	-222.17	-239.67	-1283.87	1690947.54	14569398.41	40°07'01.286"N	104°49'09.324"W	2.84	
5092.00	9.950	246.970	4891.38	-229.27	-246.98	-1299.18	1690932.26	14569391.07	40°07'01.214"N	104°49'09.521"W	2.27	
5181.00	8.030	249.630	4979.28	-234.27	-252.15	-1312.09	1690919.37	14569385.88	40°07'01.163"N	104°49'09.687"W	2.21	
5270.00	6.150	261.390	5067.60	-237.00	-255.03	-1322.63	1690908.83	14569382.98	40°07'01.134"N	104°49'09.822"W	2.66	
5359.00	3.450	271.710	5156.28	-237.53	-255.66	-1330.02	1690901.45	14569382.33	40°07'01.128"N	104°49'09.918"W	3.17	
5449.00	0.300	124.270	5246.23	-237.55	-255.71	-1332.54	1690898.93	14569382.27	40°07'01.128"N	104°49'09.950"W	4.12	
5538.00	0.110	37.860	5335.23	-237.62	-255.78	-1332.29	1690899.18	14569382.21	40°07'01.127"N	104°49'09.947"W	0.35	
5627.00	0.070	341.220	5424.23	-237.50	-255.66	-1332.26	1690899.21	14569382.33	40°07'01.128"N	104°49'09.946"W	0.10	
5716.00	0.140	327.870	5513.23	-237.36	-255.52	-1332.33	1690899.14	14569382.47	40°07'01.130"N	104°49'09.947"W	0.08	
5805.00	0.060	303.300	5602.23	-237.24	-255.40	-1332.43	1690899.04	14569382.59	40°07'01.131"N	104°49'09.949"W	0.10	
5895.00	0.030	85.940	5692.23	-237.21	-255.37	-1332.44	1690899.03	14569382.62	40°07'01.131"N	104°49'09.949"W	0.10	
5983.00	0.110	336.140	5780.23	-237.13	-255.29	-1332.46	1690899.01	14569382.69	40°07'01.132"N	104°49'09.949"W	0.14	
6072.00	0.060	122.290	5869.23	-237.08	-255.24	-1332.45	1690899.02	14569382.75	40°07'01.132"N	104°49'09.949"W	0.18	
6162.00	0.070	228.430	5959.23	-237.14	-255.30	-1332.45	1690899.02	14569382.69	40°07'01.132"N	104°49'09.949"W	0.12	
6251.00	0.070	270.260	6048.23	-237.17	-255.34	-1332.55	1690898.92	14569382.65	40°07'01.131"N	104°49'09.950"W	0.06	
6340.00	0.000	8.200	6137.23	-237.17	-255.34	-1332.60	1690898.87	14569382.65	40°07'01.131"N	104°49'09.951"W	0.08	
6429.00	0.070	7.020	6226.23	-237.12	-255.28	-1332.59	1690898.87	14569382.70	40°07'01.132"N	104°49'09.951"W	0.08	
6519.00	0.030	4.250	6316.23	-237.04	-255.20	-1332.59	1690898.88	14569382.78	40°07'01.133"N	104°49'09.951"W	0.04	
6608.00	0.070	37.390	6405.23	-236.97	-255.14	-1332.55	1690898.92	14569382.85	40°07'01.133"N	104°49'09.950"W	0.05	
6697.00	0.070	5.200	6494.23	-236.88	-255.04	-1332.51	1690898.96	14569382.95	40°07'01.134"N	104°49'09.950"W	0.04	
6786.00	0.070	5.200	6583.23	-236.77	-254.93	-1332.50	1690898.97	14569383.05	40°07'01.135"N	104°49'09.949"W	0.00	
6875.00	0.070	19.140	6672.23	-236.66	-254.83	-1332.48	1690898.99	14569383.16	40°07'01.136"N	104°49'09.949"W	0.02	
6921.00†	2.905	1.230	6718.21	-235.47	-253.63	-1332.45	1690899.02	14569384.35	40°07'01.148"N	104°49'09.949"W	6.17	KOP
6965.00	5.620	1.020	6762.09	-232.20	-250.36	-1332.38	1690899.07	14569387.62	40°07'01.181"N	104°49'09.948"W	6.17	
7054.00	15.690	1.150	6849.44	-215.78	-233.93	-1332.06	1690899.36	14569404.05	40°07'01.343"N	104°49'09.944"W	11.31	
7143.00	24.760	358.480	6932.87	-185.05	-203.21	-1332.32	1690899.04	14569434.76	40°07'01.647"N	104°49'09.947"W	10.24	
7232.00	33.450	358.750	7010.55	-141.80	-159.97	-1333.35	1690897.92	14569477.98	40°07'02.074"N	104°49'09.960"W	9.77	
7322.00	42.240	3.150	7081.57	-86.70	-104.85	-1332.23	1690898.93	14569533.08	40°07'02.619"N	104°49'09.946"W	10.21	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-1HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (232 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
7411.00	51.640	4.170	7142.27	-21.95	-40.03	-1328.04	1690902.98	14569597.88	40°07'03.259"N	104°49'09.892"W	10.59	
7431.00†	53.667	4.065	7154.40	-6.11	-24.17	-1326.89	1690904.09	14569613.73	40°07'03.416"N	104°49'09.877"W	10.14	ENTER LANDBOX (461'FSL & 2465'FEL,SEC.19) 40.1176155 -104.8194104
7500.00	60.660	3.740	7191.79	51.64	33.63	-1322.96	1690907.91	14569671.52	40°07'03.987"N	104°49'09.827"W	10.14	
7589.00	69.430	3.140	7229.30	132.03	114.10	-1318.14	1690912.56	14569751.97	40°07'04.782"N	104°49'09.765"W	9.87	
7678.00	77.080	1.120	7254.93	217.08	199.20	-1315.00	1690915.52	14569837.04	40°07'05.623"N	104°49'09.725"W	8.87	
7767.00	81.910	359.570	7271.15	304.55	286.68	-1314.48	1690915.85	14569924.48	40°07'06.488"N	104°49'09.718"W	5.69	
7821.00†	86.781	358.329	7276.47	358.26	340.39	-1315.47	1690914.75	14569978.17	40°07'07.018"N	104°49'09.731"W	9.31	LANDING (825'FSL & 2453'FEL,SEC.19) 40.1186162 -104.8193696
7857.00	90.030	357.510	7277.47	394.24	376.35	-1316.78	1690913.37	14570014.11	40°07'07.374"N	104°49'09.747"W	9.31	
7946.00	89.970	355.680	7277.47	483.14	465.18	-1322.06	1690907.90	14570102.90	40°07'08.252"N	104°49'09.816"W	2.06	
8035.00	90.120	356.770	7277.40	572.02	553.99	-1327.92	1690901.86	14570191.66	40°07'09.129"N	104°49'09.891"W	1.24	
8125.00	90.090	356.080	7277.24	661.91	643.81	-1333.53	1690896.06	14570281.44	40°07'10.017"N	104°49'09.963"W	0.77	
8214.00	90.830	357.470	7276.52	750.82	732.67	-1338.54	1690890.87	14570370.25	40°07'10.895"N	104°49'10.028"W	1.77	
8303.00	90.680	356.210	7275.35	839.74	821.52	-1343.45	1690885.78	14570459.06	40°07'11.773"N	104°49'10.091"W	1.43	
8393.00	90.800	358.150	7274.19	929.67	911.40	-1347.87	1690881.17	14570548.89	40°07'12.661"N	104°49'10.148"W	2.16	
8482.00	90.620	357.370	7273.08	1018.63	1000.33	-1351.35	1690877.51	14570637.77	40°07'13.540"N	104°49'10.193"W	0.90	
8572.00	90.550	356.760	7272.17	1108.56	1090.20	-1355.96	1690872.72	14570727.60	40°07'14.428"N	104°49'10.252"W	0.68	
8661.00	90.770	358.490	7271.14	1197.52	1179.12	-1359.65	1690868.84	14570816.47	40°07'15.307"N	104°49'10.300"W	1.96	
8750.00	90.650	356.930	7270.04	1286.48	1268.04	-1363.20	1690865.11	14570905.35	40°07'16.186"N	104°49'10.346"W	1.76	
8751.00†	90.648	356.928	7270.03	1287.48	1269.04	-1363.26	1690865.05	14570906.35	40°07'16.195"N	104°49'10.346"W	0.29	EXIT RADIUS HEEL (1754'FSL & 2502'FEL,SEC.19) 40.1211654 -104.8195407
8839.00	90.490	356.730	7269.15	1375.40	1356.90	-1368.12	1690860.00	14570994.16	40°07'17.064"N	104°49'10.409"W	0.29	
8929.00	90.710	358.440	7268.21	1465.35	1446.81	-1371.92	1690856.02	14571084.03	40°07'17.952"N	104°49'10.458"W	1.92	
9018.00	90.680	359.740	7267.13	1554.34	1535.79	-1373.33	1690854.42	14571172.97	40°07'18.831"N	104°49'10.476"W	1.46	
9108.00	90.580	0.220	7266.14	1644.33	1625.78	-1373.36	1690854.21	14571262.93	40°07'19.721"N	104°49'10.477"W	0.54	
9197.00	90.710	0.440	7265.14	1733.31	1714.78	-1372.85	1690854.53	14571351.89	40°07'20.600"N	104°49'10.470"W	0.29	
9286.00	90.370	0.260	7264.30	1822.28	1803.77	-1372.30	1690854.89	14571440.85	40°07'21.480"N	104°49'10.463"W	0.43	
9376.00	90.770	2.180	7263.40	1912.22	1893.74	-1370.39	1690856.62	14571530.79	40°07'22.369"N	104°49'10.439"W	2.18	
9465.00	90.800	1.720	7262.19	2001.11	1982.68	-1367.36	1690859.46	14571619.70	40°07'23.248"N	104°49'10.400"W	0.52	
9554.00	90.590	4.200	7261.11	2089.91	2071.55	-1362.77	1690863.87	14571708.54	40°07'24.126"N	104°49'10.341"W	2.80	
9644.00	90.590	3.350	7260.18	2179.62	2161.35	-1356.84	1690869.60	14571798.31	40°07'25.013"N	104°49'10.264"W	0.94	
9733.00	90.710	0.610	7259.17	2268.50	2250.28	-1353.77	1690872.49	14571887.22	40°07'25.892"N	104°49'10.225"W	3.08	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-1HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (232 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
9823.00	90.770	0.540	7258.01	2358.47	2340.27	-1352.86	1690873.21	14571977.17	40°07'26.781"N	104°49'10.213"W	0.10	
9912.00	90.590	2.450	7256.95	2447.39	2429.23	-1350.54	1690875.34	14572066.10	40°07'27.661"N	104°49'10.184"W	2.16	
10001.00	90.860	2.130	7255.82	2536.25	2518.15	-1346.99	1690878.71	14572154.99	40°07'28.539"N	104°49'10.138"W	0.47	
10091.00	90.430	2.030	7254.81	2626.13	2608.08	-1343.72	1690881.79	14572244.90	40°07'29.428"N	104°49'10.096"W	0.49	
10181.00	90.400	358.770	7254.16	2716.10	2698.07	-1343.09	1690882.23	14572334.85	40°07'30.317"N	104°49'10.088"W	3.62	
10270.00	90.120	358.600	7253.76	2805.10	2787.04	-1345.13	1690880.00	14572423.78	40°07'31.197"N	104°49'10.114"W	0.37	
10360.00	89.970	0.640	7253.68	2895.09	2877.04	-1345.73	1690879.22	14572513.74	40°07'32.086"N	104°49'10.122"W	2.27	
10449.00	90.250	2.240	7253.51	2984.02	2966.00	-1343.49	1690881.27	14572602.68	40°07'32.965"N	104°49'10.093"W	1.83	
10539.00	90.090	2.220	7253.25	3073.89	3055.94	-1339.99	1690884.58	14572692.58	40°07'33.854"N	104°49'10.048"W	0.18	
10628.00	90.060	0.830	7253.13	3162.82	3144.90	-1337.62	1690886.76	14572781.51	40°07'34.733"N	104°49'10.018"W	1.56	
10718.00	90.000	356.430	7253.08	3252.79	3234.85	-1339.77	1690884.43	14572871.43	40°07'35.622"N	104°49'10.045"W	4.89	
10807.00	90.150	354.900	7252.97	3341.62	3323.60	-1346.50	1690877.52	14572960.12	40°07'36.499"N	104°49'10.132"W	1.73	
10897.00	90.250	355.860	7252.65	3431.42	3413.30	-1353.75	1690870.08	14573049.77	40°07'37.385"N	104°49'10.226"W	1.07	
10986.00	89.880	356.710	7252.55	3520.30	3502.11	-1359.52	1690864.14	14573138.54	40°07'38.263"N	104°49'10.300"W	1.04	
11076.00	90.620	355.210	7252.16	3610.15	3591.89	-1365.86	1690857.61	14573228.26	40°07'39.150"N	104°49'10.382"W	1.86	
11165.00	90.680	354.840	7251.15	3698.90	3680.55	-1373.58	1690849.71	14573316.87	40°07'40.026"N	104°49'10.481"W	0.42	
11255.00	90.800	354.980	7249.99	3788.64	3770.18	-1381.56	1690841.54	14573406.45	40°07'40.912"N	104°49'10.584"W	0.20	
11344.00	90.710	356.090	7248.81	3877.45	3858.90	-1388.49	1690834.43	14573495.12	40°07'41.789"N	104°49'10.673"W	1.25	
11434.00	90.620	356.690	7247.77	3967.33	3948.72	-1394.15	1690828.58	14573584.89	40°07'42.676"N	104°49'10.746"W	0.67	
11523.00	90.490	356.270	7246.91	4056.23	4037.55	-1399.62	1690822.93	14573673.67	40°07'43.554"N	104°49'10.816"W	0.49	
11613.00	90.580	356.140	7246.07	4146.10	4127.35	-1405.57	1690816.79	14573763.42	40°07'44.442"N	104°49'10.893"W	0.18	
11702.00	90.550	359.200	7245.19	4235.05	4216.26	-1409.19	1690812.99	14573852.29	40°07'45.320"N	104°49'10.940"W	3.44	
11792.00	89.750	1.370	7244.95	4325.03	4306.25	-1408.74	1690813.25	14573942.25	40°07'46.209"N	104°49'10.934"W	2.57	
11881.00	90.030	0.400	7245.12	4413.99	4395.24	-1407.37	1690814.44	14574031.20	40°07'47.089"N	104°49'10.917"W	1.13	
11970.00	89.910	359.720	7245.17	4502.98	4484.24	-1407.28	1690814.35	14574120.17	40°07'47.968"N	104°49'10.915"W	0.78	
12060.00	89.750	358.670	7245.44	4592.98	4574.23	-1408.54	1690812.90	14574210.12	40°07'48.858"N	104°49'10.932"W	1.18	
12149.00	89.780	358.040	7245.80	4681.97	4663.19	-1411.10	1690810.16	14574299.04	40°07'49.737"N	104°49'10.965"W	0.71	
12239.00	89.910	357.890	7246.05	4771.94	4753.13	-1414.29	1690806.78	14574388.94	40°07'50.626"N	104°49'11.006"W	0.22	
12328.00	89.690	357.670	7246.36	4860.92	4842.06	-1417.74	1690803.14	14574477.83	40°07'51.504"N	104°49'11.050"W	0.35	
12417.00	89.880	358.930	7246.69	4949.90	4931.02	-1420.38	1690800.32	14574566.75	40°07'52.384"N	104°49'11.084"W	1.43	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-1HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (232 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
12506.00	89.600	0.490	7247.09	5038.89	5020.02	-1420.83	1690799.68	14574655.70	40°07'53.263"N	104°49'11.090"W	1.78	
12596.00	89.820	0.090	7247.55	5128.88	5110.02	-1420.37	1690799.95	14574745.67	40°07'54.152"N	104°49'11.084"W	0.51	
12685.00	89.690	3.420	7247.93	5217.78	5198.96	-1417.65	1690802.49	14574834.58	40°07'55.031"N	104°49'11.049"W	3.74	
12775.00	90.150	6.640	7248.06	5307.30	5288.60	-1409.76	1690810.19	14574924.20	40°07'55.917"N	104°49'10.948"W	3.61	
12864.00	90.000	7.780	7247.94	5395.44	5376.90	-1398.59	1690821.17	14575012.49	40°07'56.790"N	104°49'10.804"W	1.29	
12953.00	90.180	6.890	7247.80	5483.54	5465.17	-1387.23	1690832.35	14575100.74	40°07'57.662"N	104°49'10.658"W	1.02	
13043.00	89.940	4.090	7247.71	5573.00	5554.74	-1378.62	1690840.77	14575190.30	40°07'58.547"N	104°49'10.547"W	3.12	
13132.00	89.720	1.770	7247.97	5661.80	5643.62	-1374.07	1690845.13	14575279.16	40°07'59.426"N	104°49'10.489"W	2.62	
13222.00	90.770	359.680	7247.59	5751.77	5733.61	-1372.93	1690846.08	14575369.11	40°08'00.315"N	104°49'10.474"W	2.60	
13311.00	90.280	358.890	7246.77	5840.76	5822.60	-1374.04	1690844.78	14575458.06	40°08'01.194"N	104°49'10.488"W	1.04	
13401.00	90.400	356.470	7246.24	5930.72	5912.51	-1377.68	1690840.95	14575547.93	40°08'02.083"N	104°49'10.535"W	2.69	
13490.00	90.000	355.120	7245.92	6019.56	6001.27	-1384.21	1690834.25	14575636.64	40°08'02.960"N	104°49'10.619"W	1.58	
13580.00	90.060	353.620	7245.88	6109.23	6090.83	-1393.04	1690825.23	14575726.15	40°08'03.845"N	104°49'10.733"W	1.67	
13670.00	89.940	353.590	7245.88	6198.80	6180.27	-1403.06	1690815.03	14575815.53	40°08'04.729"N	104°49'10.862"W	0.14	
13759.00	89.600	355.150	7246.24	6287.48	6268.84	-1411.79	1690806.12	14575904.05	40°08'05.604"N	104°49'10.975"W	1.79	
13849.00	89.880	355.450	7246.64	6377.27	6358.54	-1419.17	1690798.56	14575993.69	40°08'06.490"N	104°49'11.070"W	0.46	
13938.00	89.720	356.050	7246.95	6466.10	6447.29	-1425.76	1690791.78	14576082.40	40°08'07.367"N	104°49'11.155"W	0.70	
14028.00	89.630	355.650	7247.46	6555.95	6537.05	-1432.28	1690785.08	14576172.11	40°08'08.254"N	104°49'11.239"W	0.46	
14117.00	89.570	355.850	7248.09	6644.78	6625.81	-1438.87	1690778.30	14576260.81	40°08'09.132"N	104°49'11.324"W	0.23	
14206.00	89.850	355.560	7248.54	6733.61	6714.56	-1445.54	1690771.46	14576349.51	40°08'10.009"N	104°49'11.410"W	0.45	
14296.00	89.480	359.530	7249.06	6823.55	6804.45	-1449.39	1690767.42	14576439.37	40°08'10.897"N	104°49'11.459"W	4.43	
14386.00	90.220	359.260	7249.30	6913.55	6894.45	-1450.34	1690766.28	14576529.32	40°08'11.786"N	104°49'11.472"W	0.88	
14475.00	90.250	358.710	7248.93	7002.55	6983.43	-1451.92	1690764.52	14576618.27	40°08'12.666"N	104°49'11.492"W	0.62	
14564.00	89.970	0.420	7248.76	7091.55	7072.43	-1452.59	1690763.66	14576707.22	40°08'13.545"N	104°49'11.501"W	1.95	
14654.00	89.820	1.040	7248.93	7181.51	7162.42	-1451.45	1690764.62	14576797.18	40°08'14.434"N	104°49'11.486"W	0.71	
14743.00	89.780	0.250	7249.24	7270.49	7251.41	-1450.44	1690765.43	14576886.14	40°08'15.314"N	104°49'11.473"W	0.89	
14833.00	90.550	359.250	7248.98	7360.48	7341.41	-1450.84	1690764.85	14576976.10	40°08'16.203"N	104°49'11.478"W	1.40	
14922.00	89.940	358.430	7248.60	7449.48	7430.39	-1452.64	1690762.87	14577065.04	40°08'17.082"N	104°49'11.502"W	1.15	
15012.00	90.340	358.920	7248.38	7539.47	7520.36	-1454.72	1690760.60	14577154.98	40°08'17.972"N	104°49'11.528"W	0.70	
15102.00	89.850	358.180	7248.23	7629.46	7610.33	-1457.00	1690758.13	14577244.91	40°08'18.861"N	104°49'11.558"W	0.99	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-1HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (232 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
15191.00	90.120	2.280	7248.25	7718.43	7699.31	-1456.64	1690758.31	14577333.85	40°08'19.740"N	104°49'11.553"W	4.62	
15280.00	90.310	3.900	7247.92	7807.22	7788.18	-1451.84	1690762.92	14577422.69	40°08'20.618"N	104°49'11.492"W	1.83	
15370.00	90.120	4.790	7247.58	7896.86	7877.92	-1445.02	1690769.54	14577512.41	40°08'21.505"N	104°49'11.404"W	1.01	
15459.00	90.280	3.140	7247.27	7985.55	7966.70	-1438.87	1690775.51	14577601.17	40°08'22.382"N	104°49'11.325"W	1.86	
15549.00	90.120	4.180	7246.96	8075.28	8056.52	-1433.13	1690781.07	14577690.96	40°08'23.270"N	104°49'11.251"W	1.17	
15639.00	91.110	6.750	7245.99	8164.73	8146.10	-1424.56	1690789.45	14577780.52	40°08'24.155"N	104°49'11.141"W	3.06	
15728.00	89.080	4.070	7245.84	8253.20	8234.69	-1416.17	1690797.65	14577869.09	40°08'25.031"N	104°49'11.033"W	3.78	
15818.00	89.380	0.730	7247.05	8343.04	8324.59	-1412.40	1690801.23	14577958.97	40°08'25.919"N	104°49'10.984"W	3.73	
15907.00	89.350	0.190	7248.04	8432.02	8413.58	-1411.68	1690801.76	14578047.92	40°08'26.798"N	104°49'10.975"W	0.61	
15997.00	89.510	358.110	7248.93	8522.01	8503.56	-1413.02	1690800.23	14578137.87	40°08'27.688"N	104°49'10.992"W	2.32	
16086.00	89.660	357.320	7249.58	8610.97	8592.49	-1416.57	1690796.50	14578226.75	40°08'28.566"N	104°49'11.038"W	0.90	
16265.00	89.350	356.480	7251.13	8789.82	8771.21	-1426.25	1690786.45	14578405.39	40°08'30.333"N	104°49'11.163"W	0.50	
16354.00	89.450	356.730	7252.06	8878.72	8860.05	-1431.52	1690781.00	14578494.18	40°08'31.211"N	104°49'11.231"W	0.30	
16623.00	89.720	354.780	7254.01	9147.21	9128.30	-1451.43	1690760.54	14578762.27	40°08'33.861"N	104°49'11.487"W	0.73	
16801.00	90.220	355.010	7254.10	9324.70	9305.59	-1467.27	1690744.34	14578939.46	40°08'35.613"N	104°49'11.691"W	0.31	
16891.00	90.150	355.410	7253.81	9414.48	9395.27	-1474.78	1690736.64	14579029.09	40°08'36.500"N	104°49'11.788"W	0.45	
16980.00	89.690	356.810	7253.93	9503.35	9484.07	-1480.82	1690730.42	14579117.84	40°08'37.377"N	104°49'11.866"W	1.66	
17014.00†	89.808	357.303	7254.08	9537.32	9518.02	-1482.57	1690728.60	14579151.77	40°08'37.713"N	104°49'11.888"W	1.49	ENTER RADIUS TOE (461'FNL & 2631'FEL,SEC.18) 40.1438091 -104.8199690
17069.00	90.000	358.100	7254.17	9592.30	9572.98	-1484.77	1690726.28	14579206.70	40°08'38.256"N	104°49'11.917"W	1.49	
17159.00	89.540	357.840	7254.53	9682.28	9662.92	-1487.96	1690722.91	14579296.60	40°08'39.144"N	104°49'11.958"W	0.59	
17249.00	89.690	359.070	7255.14	9772.27	9752.88	-1490.39	1690720.30	14579386.53	40°08'40.034"N	104°49'11.989"W	1.38	LAST BHGE MWD+IFR1+MSA SURVEY
17421.00	89.690	359.070	7256.07	9944.26	9924.86	-1493.18	1690717.15	14579558.43	40°08'41.733"N	104°49'12.025"W	0.00	PTB (54'FNL & 2641'FEL,SEC.18) 40.1449258 -104.8200071

HOLE & CASING SECTIONS - Ref Wellbore: CASTLE PINES 19-1HZ AWB Ref Wellpath: CASTLE PINES 19-1HZ 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	1915.00	1889.00	26.00	1860.74	0.00	0.00	-98.46	-373.10

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-1HZ 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	0.00	0.00	0.00	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	polygon
SEC.19-T2N-R66W	0.00	0.00	0.00	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	polygon
CASTLE PINES 19-1HZ BHL REV-1(52'FNL & 2619'FEL,SEC.18)	7272.00	9927.47	-1471.35	1690738.96	14579561.08	40°08'41.759"N	104°49'11.744"W	point
CASTLE PINES 19-1HZ HEEL REV-1(763'FSL & 2498'FEL,SEC.19)	7272.00	279.47	-1360.05	1690870.32	14569917.19	40°07'06.416"N	104°49'10.304"W	point
CASTLE PINES 19-1HZ HEEL REV-2(763'FSL & 2478'FEL,SEC.19)	7272.00	279.47	-1340.05	1690890.31	14569917.23	40°07'06.416"N	104°49'10.047"W	point
CASTLE PINES 19-1HZ LANDBOX	7272.00	0.00	0.00	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	polygon
CASTLE PINES 19-1HZ RADIUS 1	7272.00	830.30	-1499.27	1690730.00	14570467.50	40°07'11.860"N	104°49'12.097"W	polygon
CASTLE PINES 19-1HZ RADIUS 2	7272.00	9979.24	-1489.21	1690721.00	14579612.80	40°08'42.270"N	104°49'11.974"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: CASTLE PINES 19-1HZ AWB				Ref Wellpath: CASTLE PINES 19-1HZ AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore
26.00	1875.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <136 - 1875>		CASTLE PINES 19-1HZ AWB
1875.00	17249.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1965 - 17249>		CASTLE PINES 19-1HZ AWB
17249.00	17421.00	Blind Drilling (std)	Projection to bit		CASTLE PINES 19-1HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#01 CASTLE PINES 19-1HZ(485'FSL & 1138'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-1HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
136.00	0.530	175.300	136.00	FIRST SURFACE MWD+IFR1 SURVEY
1875.00	17.620	254.270	1822.61	LAST SURFACE MWD+IFR1 SURVEY
1965.00	17.500	251.700	1908.42	FIRST BHGE MWD+IFR1+MSA SURVEY
6921.00	2.905	1.230	6718.21	KOP
7431.00	53.667	4.065	7154.40	ENTER LANDBOX (461'FSL & 2465'FEL,SEC.19) 40.1176155 -104.8194104
7821.00	86.781	358.329	7276.47	LANDING (825'FSL & 2453'FEL,SEC.19) 40.1186162 -104.8193696
8751.00	90.648	356.928	7270.03	EXIT RADIUS HEEL (1754'FSL & 2502'FEL,SEC.19) 40.1211654 -104.8195407
17014.00	89.808	357.303	7254.08	ENTER RADIUS TOE (461'FNL & 2631'FEL,SEC.18) 40.1438091 -104.8199690
17249.00	89.690	359.070	7255.14	LAST BHGE MWD+IFR1+MSA SURVEY
17421.00	89.690	359.070	7256.07	PTB (54'FNL & 2641'FEL,SEC.18) 40.1449258 -104.8200071