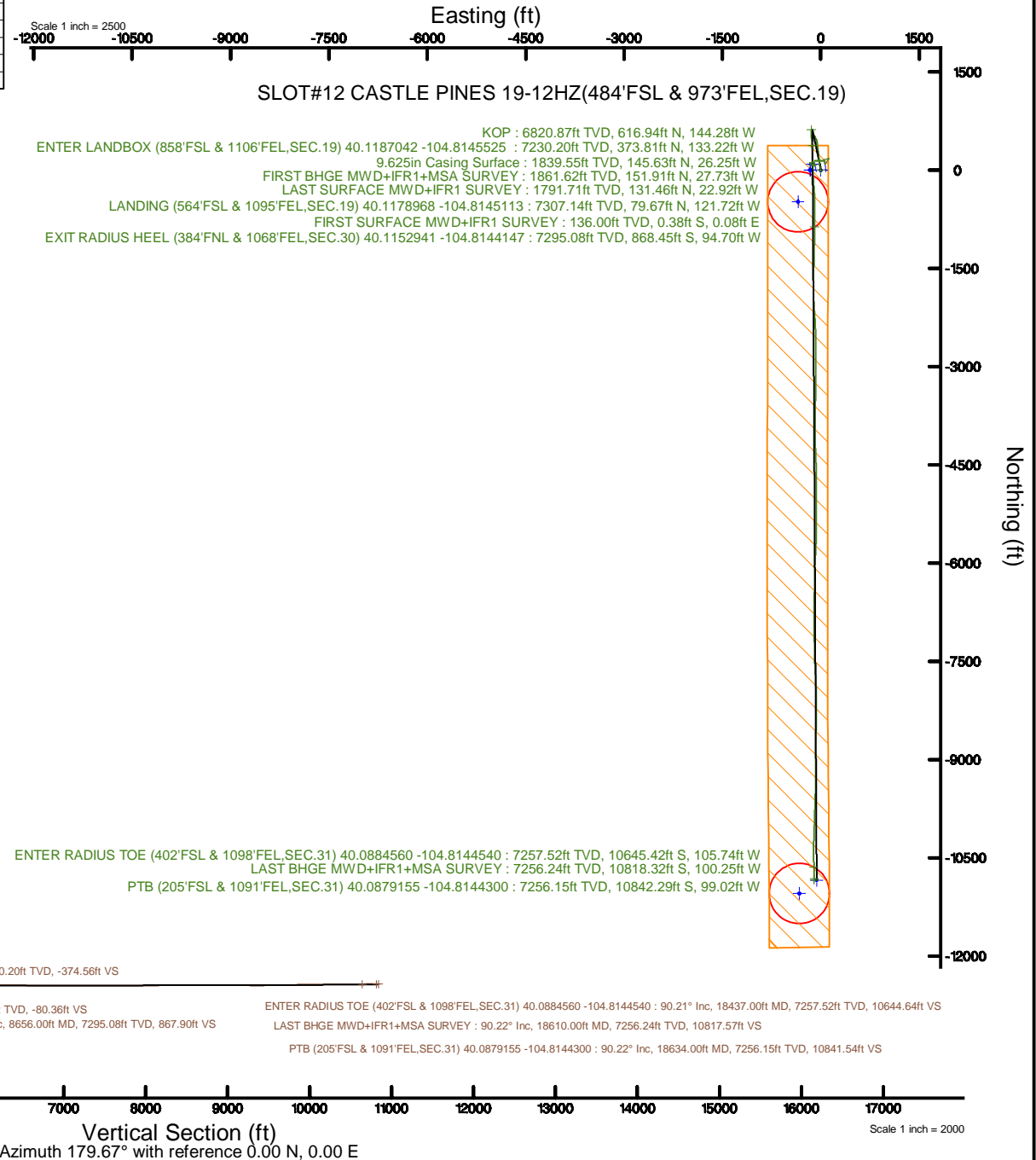


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: CASTLE PINES 19-12HZ
 Facility: SEC.19-T2N-R66W Wellbore: CASTLE PINES 19-12HZ PWB

Plot reference wellpath is CASTLE PINES 19-12HZ 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: 4902 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2019-01-03
	Database: WA_DEN_Anadarko_Defn



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-12HZ AWP
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	1/3/2019 at 8:04 AM
Convergence at slot	0.12° East	Database/Source file	WA_DEN_Anadarko_Defn/CASTLE_PINES_19-12HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-1.42	165.01	1692395.35	14569639.59	40°07'03.641"N	104°48'50.674"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#12 CASTLE PINES 19-12HZ(484'FSL & 973'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	179.67°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-12HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (214 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	168.140	0.00	0.00	0.00	0.00	1692395.35	14569639.59	40°07'03.641°N	104°48'50.674°W	0.00	
26.00	0.000	168.140	26.00	0.00	0.00	0.00	1692395.35	14569639.59	40°07'03.641°N	104°48'50.674°W	0.00	
136.00	0.400	168.140	136.00	0.38	-0.38	0.08	1692395.43	14569639.21	40°07'03.637°N	104°48'50.673°W	0.36	FIRST SURFACE MWD+IFR1 SURVEY
231.00	0.830	183.260	230.99	1.39	-1.39	0.11	1692395.46	14569638.20	40°07'03.627°N	104°48'50.673°W	0.48	
326.00	0.790	179.740	325.98	2.73	-2.73	0.07	1692395.43	14569636.86	40°07'03.614°N	104°48'50.673°W	0.07	
422.00	0.310	65.390	421.98	3.28	-3.28	0.31	1692395.67	14569636.31	40°07'03.609°N	104°48'50.670°W	1.00	
517.00	0.790	52.210	516.98	2.78	-2.77	1.06	1692396.42	14569636.82	40°07'03.614°N	104°48'50.660°W	0.52	
612.00	1.010	9.230	611.97	1.56	-1.55	1.71	1692397.07	14569638.05	40°07'03.626°N	104°48'50.652°W	0.73	
707.00	0.620	353.500	706.96	0.22	-0.21	1.79	1692397.14	14569639.38	40°07'03.639°N	104°48'50.651°W	0.47	
802.00	0.750	353.850	801.95	-0.91	0.92	1.67	1692397.02	14569640.51	40°07'03.650°N	104°48'50.653°W	0.14	
898.00	0.790	359.210	897.94	-2.20	2.21	1.59	1692396.94	14569641.80	40°07'03.663°N	104°48'50.654°W	0.09	
993.00	1.540	351.650	992.92	-4.12	4.12	1.39	1692396.74	14569643.71	40°07'03.682°N	104°48'50.656°W	0.80	
1088.00	2.940	349.630	1087.85	-7.78	7.78	0.77	1692396.11	14569647.37	40°07'03.718°N	104°48'50.664°W	1.48	
1183.00	4.530	353.410	1182.64	-13.91	13.91	-0.10	1692395.22	14569653.49	40°07'03.778°N	104°48'50.675°W	1.69	
1279.00	6.590	352.180	1278.18	-23.14	23.13	-1.28	1692394.02	14569662.71	40°07'03.870°N	104°48'50.691°W	2.15	
1373.00	8.440	350.600	1371.37	-35.30	35.28	-3.14	1692392.14	14569674.85	40°07'03.990°N	104°48'50.714°W	1.98	
1468.00	11.250	348.210	1464.96	-51.27	51.23	-6.18	1692389.07	14569690.79	40°07'04.147°N	104°48'50.754°W	2.99	
1562.00	12.960	348.930	1556.87	-70.61	70.56	-10.07	1692385.13	14569710.10	40°07'04.338°N	104°48'50.804°W	1.83	
1658.00	14.500	349.110	1650.13	-93.01	92.92	-14.41	1692380.75	14569732.45	40°07'04.559°N	104°48'50.860°W	1.60	
1753.00	15.640	346.910	1741.86	-117.19	117.08	-19.56	1692375.56	14569756.58	40°07'04.798°N	104°48'50.926°W	1.34	
1805.00	17.360	346.820	1791.71	-131.59	131.46	-22.92	1692372.17	14569770.95	40°07'04.940°N	104°48'50.969°W	3.31	LAST SURFACE MWD+IFR1 SURVEY
1878.00	16.100	346.670	1861.62	-152.07	151.91	-27.73	1692367.31	14569791.38	40°07'05.142°N	104°48'51.031°W	1.73	FIRST BHGE MWD+IFR1+MSA SURVEY
1967.00	16.840	353.110	1946.98	-176.90	176.72	-32.13	1692362.87	14569816.17	40°07'05.387°N	104°48'51.088°W	2.21	
2057.00	17.330	355.180	2033.01	-203.22	203.02	-34.82	1692360.13	14569842.46	40°07'05.647°N	104°48'51.122°W	0.87	
2146.00	16.870	356.960	2118.07	-229.33	229.13	-36.61	1692358.27	14569868.55	40°07'05.905°N	104°48'51.145°W	0.78	
2236.00	16.830	356.740	2204.21	-255.39	255.17	-38.05	1692356.79	14569894.58	40°07'06.163°N	104°48'51.164°W	0.08	
2325.00	17.040	356.830	2289.35	-281.28	281.06	-39.50	1692355.28	14569920.45	40°07'06.418°N	104°48'51.182°W	0.24	
2415.00	17.460	352.890	2375.30	-307.86	307.62	-41.90	1692352.82	14569947.00	40°07'06.681°N	104°48'51.213°W	1.38	
2504.00	17.200	346.340	2460.27	-333.92	333.66	-46.66	1692348.01	14569973.02	40°07'06.938°N	104°48'51.275°W	2.21	
2593.00	16.490	349.540	2545.45	-359.16	358.87	-52.06	1692342.56	14569998.21	40°07'07.187°N	104°48'51.344°W	1.31	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-12HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (214 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
2683.00	16.950	356.140	2631.66	-384.83	384.52	-55.27	1692339.30	14570023.84	40°07'07.441"N	104°48'51.385"W	2.17	
2772.00	17.260	357.930	2716.72	-410.98	410.66	-56.62	1692337.90	14570049.97	40°07'07.699"N	104°48'51.403"W	0.69	
2861.00	17.590	351.500	2801.64	-437.49	437.16	-59.08	1692335.38	14570076.45	40°07'07.961"N	104°48'51.434"W	2.19	
2950.00	17.430	336.340	2886.56	-463.06	462.68	-66.42	1692327.99	14570101.95	40°07'08.213"N	104°48'51.529"W	5.11	
3040.00	16.960	330.180	2972.55	-486.86	486.42	-78.36	1692316.01	14570125.65	40°07'08.448"N	104°48'51.683"W	2.09	
3129.00	14.480	329.590	3058.21	-507.79	507.28	-90.45	1692303.88	14570146.48	40°07'08.654"N	104°48'51.838"W	2.79	
3218.00	12.990	329.980	3144.67	-526.11	525.54	-101.09	1692293.21	14570164.71	40°07'08.834"N	104°48'51.975"W	1.68	
3308.00	12.880	335.320	3232.39	-544.03	543.41	-110.34	1692283.92	14570182.55	40°07'09.011"N	104°48'52.094"W	1.33	
3397.00	12.730	347.190	3319.19	-562.65	561.99	-116.65	1692277.57	14570201.11	40°07'09.195"N	104°48'52.176"W	2.96	
3486.00	11.200	344.840	3406.25	-580.58	579.90	-121.09	1692273.10	14570219.00	40°07'09.372"N	104°48'52.233"W	1.80	
3576.00	9.380	335.420	3494.81	-595.72	595.01	-126.43	1692267.73	14570234.09	40°07'09.521"N	104°48'52.301"W	2.75	
3665.00	7.250	329.800	3582.87	-607.20	606.46	-132.27	1692261.87	14570245.53	40°07'09.634"N	104°48'52.377"W	2.56	
3755.00	5.580	326.160	3672.30	-615.78	615.00	-137.56	1692256.56	14570254.05	40°07'09.719"N	104°48'52.445"W	1.91	
3844.00	3.350	301.960	3761.03	-620.77	619.97	-142.18	1692251.94	14570259.01	40°07'09.768"N	104°48'52.504"W	3.23	
3934.00	1.260	152.140	3850.99	-621.30	620.49	-143.95	1692250.17	14570259.53	40°07'09.773"N	104°48'52.527"W	4.98	
4023.00	0.540	287.480	3939.98	-620.56	619.75	-143.89	1692250.22	14570258.79	40°07'09.765"N	104°48'52.526"W	1.90	
4112.00	0.110	51.230	4028.98	-620.74	619.93	-144.22	1692249.89	14570258.97	40°07'09.767"N	104°48'52.530"W	0.68	
4202.00	0.070	324.770	4118.98	-620.84	620.03	-144.19	1692249.93	14570259.07	40°07'09.768"N	104°48'52.530"W	0.14	
4291.00	0.070	248.310	4207.98	-620.87	620.05	-144.27	1692249.84	14570259.09	40°07'09.768"N	104°48'52.531"W	0.10	
4380.00	0.150	41.950	4296.98	-620.93	620.12	-144.24	1692249.87	14570259.16	40°07'09.769"N	104°48'52.531"W	0.24	
4470.00	0.210	283.060	4386.98	-621.06	620.24	-144.33	1692249.79	14570259.28	40°07'09.770"N	104°48'52.532"W	0.35	
4559.00	0.090	35.650	4475.98	-621.15	620.34	-144.44	1692249.67	14570259.38	40°07'09.771"N	104°48'52.533"W	0.29	
4648.00	0.070	274.930	4564.98	-621.21	620.40	-144.46	1692249.66	14570259.44	40°07'09.772"N	104°48'52.533"W	0.16	
4738.00	0.070	93.470	4654.98	-621.21	620.40	-144.46	1692249.66	14570259.44	40°07'09.772"N	104°48'52.533"W	0.16	
4827.00	0.070	140.720	4743.98	-621.17	620.36	-144.37	1692249.75	14570259.39	40°07'09.771"N	104°48'52.532"W	0.06	
4917.00	0.160	71.870	4833.98	-621.16	620.35	-144.21	1692249.90	14570259.39	40°07'09.771"N	104°48'52.530"W	0.17	
5006.00	0.140	212.110	4922.98	-621.11	620.30	-144.15	1692249.96	14570259.34	40°07'09.771"N	104°48'52.530"W	0.32	
5095.00	0.160	345.630	5011.98	-621.14	620.33	-144.24	1692249.87	14570259.37	40°07'09.771"N	104°48'52.531"W	0.31	
5185.00	0.040	191.430	5101.98	-621.23	620.42	-144.28	1692249.83	14570259.46	40°07'09.772"N	104°48'52.531"W	0.22	
5274.00	0.110	282.380	5190.98	-621.22	620.41	-144.37	1692249.74	14570259.44	40°07'09.772"N	104°48'52.532"W	0.13	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-12HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (214 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
5363.00	0.070	267.310	5279.98	-621.24	620.42	-144.51	1692249.61	14570259.46	40°07'09.772"N	104°48'52.534"W	0.05	
5452.00	0.150	274.710	5368.98	-621.24	620.43	-144.68	1692249.44	14570259.47	40°07'09.772"N	104°48'52.536"W	0.09	
5541.00	0.090	49.320	5457.98	-621.30	620.48	-144.74	1692249.37	14570259.52	40°07'09.773"N	104°48'52.537"W	0.25	
5630.00	0.060	41.590	5546.98	-621.38	620.56	-144.66	1692249.46	14570259.60	40°07'09.773"N	104°48'52.536"W	0.04	
5720.00	0.130	347.100	5636.98	-621.51	620.70	-144.65	1692249.47	14570259.74	40°07'09.775"N	104°48'52.536"W	0.12	
5809.00	0.070	154.220	5725.98	-621.56	620.75	-144.65	1692249.47	14570259.79	40°07'09.775"N	104°48'52.536"W	0.22	
5898.00	0.070	180.870	5814.98	-621.46	620.64	-144.62	1692249.49	14570259.68	40°07'09.774"N	104°48'52.536"W	0.04	
5987.00	0.090	44.320	5903.98	-621.46	620.64	-144.58	1692249.54	14570259.68	40°07'09.774"N	104°48'52.535"W	0.17	
6077.00	0.170	332.220	5993.98	-621.62	620.81	-144.59	1692249.52	14570259.85	40°07'09.776"N	104°48'52.535"W	0.18	
6166.00	0.130	32.900	6082.98	-621.83	621.01	-144.60	1692249.52	14570260.05	40°07'09.778"N	104°48'52.535"W	0.17	
6256.00	0.060	161.240	6172.98	-621.87	621.05	-144.52	1692249.59	14570260.09	40°07'09.778"N	104°48'52.534"W	0.19	
6345.00	0.070	331.240	6261.98	-621.87	621.06	-144.54	1692249.58	14570260.09	40°07'09.778"N	104°48'52.534"W	0.15	
6434.00	0.070	71.370	6350.98	-621.93	621.12	-144.51	1692249.60	14570260.16	40°07'09.779"N	104°48'52.534"W	0.12	
6523.00	0.090	168.900	6439.98	-621.88	621.07	-144.45	1692249.67	14570260.11	40°07'09.778"N	104°48'52.533"W	0.14	
6702.00	0.110	279.790	6618.98	-621.78	620.96	-144.59	1692249.52	14570260.00	40°07'09.777"N	104°48'52.535"W	0.09	
6791.00	0.100	317.300	6707.98	-621.85	621.03	-144.72	1692249.39	14570260.07	40°07'09.778"N	104°48'52.537"W	0.08	
6880.00	3.130	172.190	6796.94	-619.50	618.68	-144.45	1692249.67	14570257.72	40°07'09.755"N	104°48'52.533"W	3.61	
6904.00†	5.215	175.799	6820.87	-617.76	616.94	-144.28	1692249.84	14570255.98	40°07'09.738"N	104°48'52.531"W	8.75	KOP
6970.00	10.980	178.640	6886.19	-608.47	607.66	-143.91	1692250.23	14570246.71	40°07'09.646"N	104°48'52.526"W	8.75	
7059.00	20.340	178.790	6971.79	-584.48	583.67	-143.38	1692250.81	14570222.72	40°07'09.409"N	104°48'52.520"W	10.52	
7148.00	30.190	178.950	7052.18	-546.54	545.74	-142.64	1692251.63	14570184.81	40°07'09.034"N	104°48'52.510"W	11.07	
7237.00	40.460	175.870	7124.70	-495.21	494.42	-140.14	1692254.23	14570133.52	40°07'08.527"N	104°48'52.478"W	11.71	
7326.00	49.570	177.140	7187.55	-432.43	431.65	-136.37	1692258.14	14570070.78	40°07'07.907"N	104°48'52.429"W	10.29	
7398.00†	57.708	176.660	7230.20	-374.56	373.81	-133.22	1692261.40	14570012.97	40°07'07.335"N	104°48'52.389"W	11.32	ENTER LANDBOX (858'FSL & 1106'FEL,SEC.19) 40.1187042 -104.8145525
7415.00	59.630	176.560	7239.04	-360.06	359.31	-132.36	1692262.29	14569998.48	40°07'07.192"N	104°48'52.378"W	11.32	
7504.00	69.850	177.060	7276.97	-279.78	279.05	-127.90	1692266.92	14569918.26	40°07'06.399"N	104°48'52.320"W	11.49	
7593.00	80.440	178.300	7299.75	-193.93	193.22	-124.45	1692270.55	14569832.47	40°07'05.550"N	104°48'52.276"W	11.97	
7683.00	90.060	178.870	7307.20	-104.36	103.66	-122.24	1692272.94	14569742.96	40°07'04.665"N	104°48'52.247"W	10.71	
7707.00†	90.235	178.622	7307.14	-80.36	79.67	-121.72	1692273.52	14569718.97	40°07'04.428"N	104°48'52.241"W	1.27	LANDING (564'FSL & 1095'FEL,SEC.19) 40.1178968 -104.8145113
7772.00	90.710	177.950	7306.60	-15.38	14.70	-119.77	1692275.60	14569654.03	40°07'03.786"N	104°48'52.216"W	1.27	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-12HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (214 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
7861.00	91.170	177.670	7305.14	73.56	-74.22	-116.37	1692279.18	14569565.15	40°07'02.908"N	104°48'52.172"W	0.61	
7950.00	91.320	176.600	7303.21	162.45	-163.09	-111.92	1692283.81	14569476.33	40°07'02.029"N	104°48'52.115"W	1.21	
8040.00	90.710	175.510	7301.61	252.25	-252.86	-105.73	1692290.19	14569386.61	40°07'01.142"N	104°48'52.035"W	1.39	
8129.00	91.140	176.390	7300.17	341.05	-341.62	-99.45	1692296.66	14569297.89	40°07'00.265"N	104°48'51.954"W	1.10	
8218.00	90.550	178.220	7298.86	429.96	-430.51	-95.26	1692301.03	14569209.05	40°06'59.387"N	104°48'51.900"W	2.16	
8307.00	90.460	179.190	7298.08	518.94	-519.48	-93.25	1692303.22	14569120.12	40°06'58.507"N	104°48'51.874"W	1.09	
8396.00	90.550	179.770	7297.29	607.94	-608.48	-92.44	1692304.22	14569031.16	40°06'57.628"N	104°48'51.864"W	0.66	
8485.00	90.520	180.700	7296.46	696.93	-697.47	-92.81	1692304.04	14568942.20	40°06'56.749"N	104°48'51.869"W	1.05	
8574.00	90.370	180.380	7295.77	785.92	-786.46	-93.65	1692303.39	14568853.24	40°06'55.869"N	104°48'51.879"W	0.40	
8656.00†	90.598	181.091	7295.08	867.90	-868.45	-94.70	1692302.50	14568771.29	40°06'55.059"N	104°48'51.893"W	0.91	EXIT RADIUS HEEL (384'FNL & 1068'FEL,SEC.30) 40.1152941 -104.8144147
8664.00	90.620	181.160	7294.99	875.90	-876.45	-94.86	1692302.36	14568763.29	40°06'54.980"N	104°48'51.895"W	0.91	
8753.00	90.430	180.240	7294.18	964.88	-965.44	-95.95	1692301.46	14568674.33	40°06'54.100"N	104°48'51.909"W	1.06	
8842.00	90.620	181.150	7293.36	1053.86	-1054.43	-97.02	1692300.57	14568585.38	40°06'53.221"N	104°48'51.923"W	1.04	
8931.00	90.430	180.800	7292.55	1142.83	-1143.41	-98.54	1692299.24	14568496.43	40°06'52.342"N	104°48'51.942"W	0.45	
9021.00	90.580	181.520	7291.75	1232.80	-1233.39	-100.36	1692297.61	14568406.48	40°06'51.452"N	104°48'51.966"W	0.82	
9110.00	90.340	181.660	7291.04	1321.74	-1322.35	-102.83	1692295.33	14568317.55	40°06'50.573"N	104°48'51.998"W	0.31	
9199.00	90.650	181.450	7290.27	1410.69	-1411.32	-105.25	1692293.10	14568228.62	40°06'49.694"N	104°48'52.029"W	0.42	
9288.00	90.060	181.260	7289.72	1499.65	-1500.29	-107.35	1692291.18	14568139.68	40°06'48.815"N	104°48'52.056"W	0.70	
9378.00	90.030	180.980	7289.65	1589.62	-1590.27	-109.11	1692289.61	14568049.73	40°06'47.926"N	104°48'52.078"W	0.31	
9467.00	90.490	181.210	7289.24	1678.60	-1679.25	-110.81	1692288.10	14567960.78	40°06'47.046"N	104°48'52.100"W	0.58	
9556.00	90.180	180.340	7288.72	1767.58	-1768.24	-112.01	1692287.08	14567871.82	40°06'46.167"N	104°48'52.116"W	1.04	
9646.00	90.030	179.070	7288.56	1857.57	-1858.24	-111.55	1692287.73	14567781.86	40°06'45.278"N	104°48'52.110"W	1.42	
9735.00	90.220	178.160	7288.36	1946.56	-1947.21	-109.40	1692290.07	14567692.93	40°06'44.398"N	104°48'52.082"W	1.04	
9824.00	90.520	176.640	7287.79	2035.48	-2036.12	-105.36	1692294.29	14567604.07	40°06'43.520"N	104°48'52.030"W	1.74	
9913.00	90.460	176.290	7287.03	2124.34	-2124.94	-99.87	1692299.96	14567515.29	40°06'42.642"N	104°48'51.959"W	0.40	
10003.00	90.340	176.460	7286.40	2214.19	-2214.76	-94.18	1692305.83	14567425.52	40°06'41.754"N	104°48'51.886"W	0.23	
10092.00	89.880	175.730	7286.23	2303.01	-2303.55	-88.12	1692312.08	14567336.77	40°06'40.877"N	104°48'51.808"W	0.97	
10181.00	90.180	177.720	7286.18	2391.89	-2392.41	-83.04	1692317.35	14567247.97	40°06'39.999"N	104°48'51.743"W	2.26	
10271.00	90.340	179.210	7285.77	2481.87	-2482.37	-80.63	1692319.94	14567158.05	40°06'39.110"N	104°48'51.712"W	1.67	
10360.00	90.590	179.020	7285.05	2570.86	-2571.36	-79.25	1692321.50	14567069.10	40°06'38.231"N	104°48'51.694"W	0.35	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-12HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (214 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
10450.00	90.460	179.340	7284.23	2660.85	-2661.34	-77.97	1692322.98	14566979.15	40°06'37.341"N	104°48'51.677"W	0.38	
10539.00	90.310	179.710	7283.63	2749.85	-2750.34	-77.23	1692323.90	14566890.19	40°06'36.462"N	104°48'51.668"W	0.45	
10628.00	90.090	179.590	7283.32	2838.85	-2839.33	-76.68	1692324.63	14566801.23	40°06'35.582"N	104°48'51.661"W	0.28	
10718.00	90.400	179.330	7282.93	2928.85	-2929.33	-75.84	1692325.67	14566711.28	40°06'34.693"N	104°48'51.650"W	0.45	
10807.00	90.430	179.910	7282.29	3017.85	-3018.33	-75.25	1692326.45	14566622.32	40°06'33.814"N	104°48'51.642"W	0.65	
10897.00	90.150	180.080	7281.83	3107.84	-3108.32	-75.24	1692326.64	14566532.35	40°06'32.924"N	104°48'51.642"W	0.36	
10986.00	89.820	180.180	7281.86	3196.84	-3197.32	-75.44	1692326.63	14566443.39	40°06'32.045"N	104°48'51.645"W	0.39	
11075.00	89.820	180.890	7282.14	3285.83	-3286.32	-76.27	1692325.98	14566354.43	40°06'31.165"N	104°48'51.656"W	0.80	
11165.00	89.820	181.270	7282.42	3375.80	-3376.30	-77.97	1692324.47	14566264.48	40°06'30.276"N	104°48'51.677"W	0.42	
11254.00	89.850	181.670	7282.68	3464.76	-3465.27	-80.25	1692322.38	14566175.54	40°06'29.397"N	104°48'51.707"W	0.45	
11343.00	89.480	181.710	7283.20	3553.70	-3554.23	-82.88	1692319.94	14566086.61	40°06'28.518"N	104°48'51.741"W	0.42	
11433.00	89.780	181.930	7283.78	3643.64	-3644.18	-85.73	1692317.27	14565996.69	40°06'27.629"N	104°48'51.777"W	0.41	
11522.00	89.820	180.620	7284.09	3732.60	-3733.16	-87.71	1692315.48	14565907.74	40°06'26.749"N	104°48'51.803"W	1.47	
11612.00	90.250	180.390	7284.03	3822.59	-3823.16	-88.51	1692314.87	14565817.78	40°06'25.860"N	104°48'51.813"W	0.54	
11702.00	90.180	179.260	7283.69	3912.59	-3913.15	-88.23	1692315.33	14565727.82	40°06'24.971"N	104°48'51.810"W	1.26	
11791.00	90.060	180.730	7283.51	4001.58	-4002.15	-88.22	1692315.53	14565638.86	40°06'24.091"N	104°48'51.809"W	1.66	
11880.00	90.090	179.760	7283.39	4090.58	-4091.15	-88.61	1692315.33	14565549.90	40°06'23.212"N	104°48'51.814"W	1.09	
11970.00	90.000	176.810	7283.32	4180.54	-4181.10	-85.91	1692318.21	14565459.99	40°06'22.323"N	104°48'51.780"W	3.28	
12060.00	90.220	176.650	7283.15	4270.42	-4270.95	-80.78	1692323.53	14565370.18	40°06'21.435"N	104°48'51.714"W	0.30	
12149.00	90.030	177.610	7282.95	4359.33	-4359.84	-76.32	1692328.17	14565281.34	40°06'20.556"N	104°48'51.656"W	1.10	
12239.00	90.770	179.020	7282.33	4449.30	-4449.80	-73.68	1692331.01	14565191.42	40°06'19.668"N	104°48'51.622"W	1.77	
12328.00	90.890	179.440	7281.04	4538.29	-4538.78	-72.48	1692332.39	14565102.48	40°06'18.788"N	104°48'51.607"W	0.49	
12418.00	90.890	179.420	7279.64	4628.28	-4628.76	-71.58	1692333.47	14565012.53	40°06'17.899"N	104°48'51.595"W	0.02	
12507.00	90.950	179.250	7278.21	4717.27	-4717.74	-70.55	1692334.69	14564923.59	40°06'17.020"N	104°48'51.582"W	0.20	
12597.00	90.770	179.820	7276.86	4807.25	-4807.73	-69.82	1692335.61	14564833.64	40°06'16.130"N	104°48'51.573"W	0.66	
12686.00	91.020	179.090	7275.47	4896.24	-4896.72	-68.98	1692336.64	14564744.69	40°06'15.251"N	104°48'51.562"W	0.87	
12775.00	91.260	179.740	7273.70	4985.22	-4985.69	-68.07	1692337.73	14564655.75	40°06'14.372"N	104°48'51.550"W	0.78	
12865.00	90.800	179.360	7272.08	5075.21	-5075.68	-67.36	1692338.63	14564565.81	40°06'13.483"N	104°48'51.541"W	0.66	
12954.00	90.340	179.790	7271.19	5164.20	-5164.67	-66.70	1692339.47	14564476.85	40°06'12.603"N	104°48'51.532"W	0.71	
13044.00	90.250	180.690	7270.73	5254.20	-5254.66	-67.08	1692339.29	14564386.89	40°06'11.714"N	104°48'51.537"W	1.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-12HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (214 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
13134.00	90.680	180.270	7270.00	5344.18	-5344.66	-67.83	1692338.72	14564296.93	40°06'10.824"N	104°48'51.547"W	0.67	
13223.00	90.520	180.090	7269.07	5433.18	-5433.65	-68.11	1692338.63	14564207.97	40°06'09.945"N	104°48'51.550"W	0.27	
13312.00	90.150	180.800	7268.55	5522.17	-5522.65	-68.80	1692338.12	14564119.01	40°06'09.065"N	104°48'51.555"W	0.90	
13402.00	90.490	181.690	7268.05	5612.13	-5612.62	-70.76	1692336.35	14564029.07	40°06'08.176"N	104°48'51.585"W	1.06	
13491.00	90.430	181.690	7267.33	5701.07	-5701.58	-73.38	1692333.92	14563940.14	40°06'07.297"N	104°48'51.618"W	0.07	
13580.00	90.090	182.990	7266.93	5789.97	-5790.51	-77.02	1692330.47	14563851.24	40°06'06.418"N	104°48'51.665"W	1.51	
13670.00	89.630	183.440	7267.15	5879.80	-5880.36	-82.06	1692325.61	14563761.41	40°06'05.530"N	104°48'51.730"W	0.72	
13759.00	90.030	183.500	7267.41	5968.60	-5969.20	-87.45	1692320.41	14563672.60	40°06'04.653"N	104°48'51.799"W	0.45	
13849.00	90.090	182.540	7267.32	6058.45	-6059.07	-92.19	1692315.86	14563582.75	40°06'03.764"N	104°48'51.860"W	1.07	
13938.00	90.280	181.780	7267.03	6147.36	-6148.01	-95.55	1692312.70	14563493.85	40°06'02.886"N	104°48'51.904"W	0.88	
14027.00	90.030	179.550	7266.79	6236.34	-6237.00	-96.58	1692311.85	14563404.89	40°06'02.006"N	104°48'51.917"W	2.52	
14117.00	89.880	180.620	7266.86	6326.34	-6327.00	-96.71	1692311.90	14563314.93	40°06'01.117"N	104°48'51.919"W	1.20	
14206.00	88.620	181.080	7268.02	6415.31	-6415.98	-98.03	1692310.77	14563225.98	40°06'00.237"N	104°48'51.935"W	1.51	
14296.00	88.920	180.950	7269.96	6505.27	-6505.94	-99.63	1692309.36	14563136.05	40°05'59.348"N	104°48'51.956"W	0.36	
14385.00	89.110	180.630	7271.49	6594.24	-6594.92	-100.85	1692308.32	14563047.10	40°05'58.469"N	104°48'51.972"W	0.42	
14474.00	89.050	180.130	7272.92	6683.22	-6683.91	-101.44	1692307.92	14562958.15	40°05'57.590"N	104°48'51.979"W	0.57	
14564.00	89.050	179.570	7274.41	6773.20	-6773.89	-101.21	1692308.34	14562868.20	40°05'56.700"N	104°48'51.976"W	0.62	
14653.00	90.090	180.140	7275.08	6862.20	-6862.89	-100.98	1692308.76	14562779.24	40°05'55.821"N	104°48'51.973"W	1.33	
14832.00	89.910	179.720	7275.08	7041.20	-7041.89	-100.76	1692309.35	14562600.32	40°05'54.052"N	104°48'51.971"W	0.26	
14922.00	90.060	179.040	7275.10	7131.20	-7131.88	-99.79	1692310.51	14562510.36	40°05'53.163"N	104°48'51.958"W	0.77	
15011.00	90.220	178.780	7274.88	7220.19	-7220.87	-98.10	1692312.39	14562421.41	40°05'52.283"N	104°48'51.936"W	0.34	
15101.00	90.150	178.800	7274.59	7310.18	-7310.84	-96.20	1692314.48	14562331.48	40°05'51.394"N	104°48'51.912"W	0.08	
15190.00	90.150	178.580	7274.36	7399.16	-7399.82	-94.16	1692316.70	14562242.54	40°05'50.515"N	104°48'51.886"W	0.25	
15280.00	90.280	178.400	7274.02	7489.14	-7489.79	-91.79	1692319.25	14562152.61	40°05'49.626"N	104°48'51.855"W	0.25	
15370.00	90.180	177.720	7273.66	7579.11	-7579.74	-88.74	1692322.49	14562062.71	40°05'48.737"N	104°48'51.816"W	0.76	
15459.00	90.370	176.560	7273.23	7668.02	-7668.62	-84.30	1692327.11	14561973.87	40°05'47.859"N	104°48'51.759"W	1.32	
15548.00	90.180	176.870	7272.80	7756.90	-7757.48	-79.20	1692332.40	14561885.06	40°05'46.981"N	104°48'51.693"W	0.41	
15638.00	90.280	177.670	7272.44	7846.82	-7847.37	-74.92	1692336.87	14561795.21	40°05'46.092"N	104°48'51.638"W	0.90	
15727.00	90.280	178.250	7272.01	7935.78	-7936.31	-71.75	1692340.22	14561706.31	40°05'45.213"N	104°48'51.597"W	0.65	
15817.00	90.340	178.550	7271.52	8025.75	-8026.28	-69.23	1692342.92	14561616.39	40°05'44.324"N	104°48'51.565"W	0.34	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-12HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (214 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
15906.00	90.370	179.970	7270.97	8114.75	-8115.27	-68.09	1692344.26	14561527.44	40°05'43.445"N	104°48'51.550"W	1.60	
15996.00	90.060	181.150	7270.63	8204.73	-8205.26	-68.97	1692343.56	14561437.48	40°05'42.555"N	104°48'51.561"W	1.36	
16085.00	90.490	181.650	7270.21	8293.69	-8294.23	-71.14	1692341.58	14561348.54	40°05'41.676"N	104°48'51.589"W	0.74	
16175.00	90.090	180.570	7269.75	8383.66	-8384.21	-72.88	1692340.02	14561258.59	40°05'40.787"N	104°48'51.612"W	1.28	
16264.00	90.060	179.810	7269.63	8472.65	-8473.21	-73.18	1692339.91	14561169.62	40°05'39.908"N	104°48'51.616"W	0.85	
16354.00	90.250	180.620	7269.39	8562.65	-8563.21	-73.52	1692339.76	14561079.66	40°05'39.018"N	104°48'51.620"W	0.92	
16443.00	90.180	181.270	7269.06	8651.63	-8652.20	-74.98	1692338.48	14560990.71	40°05'38.139"N	104°48'51.639"W	0.73	
16533.00	90.060	180.570	7268.87	8741.60	-8742.18	-76.43	1692337.23	14560900.75	40°05'37.250"N	104°48'51.657"W	0.79	
16622.00	90.280	180.970	7268.60	8830.59	-8831.17	-77.62	1692336.22	14560811.79	40°05'36.370"N	104°48'51.673"W	0.51	
16712.00	90.250	179.050	7268.19	8920.58	-8921.17	-77.64	1692336.39	14560721.84	40°05'35.481"N	104°48'51.673"W	2.13	
16801.00	89.480	179.730	7268.40	9009.58	-9010.16	-76.69	1692337.52	14560632.88	40°05'34.601"N	104°48'51.661"W	1.15	
16891.00	89.660	179.730	7269.07	9099.58	-9100.16	-76.27	1692338.13	14560542.92	40°05'33.712"N	104°48'51.655"W	0.20	
16980.00	89.380	179.810	7269.82	9188.57	-9189.16	-75.91	1692338.68	14560453.96	40°05'32.832"N	104°48'51.651"W	0.33	
17070.00	89.320	180.940	7270.84	9278.56	-9279.15	-76.50	1692338.28	14560364.00	40°05'31.943"N	104°48'51.658"W	1.26	
17160.00	90.180	181.130	7271.23	9368.53	-9369.13	-78.13	1692336.84	14560274.05	40°05'31.054"N	104°48'51.679"W	0.98	
17249.00	90.800	181.500	7270.47	9457.49	-9458.10	-80.17	1692334.98	14560185.11	40°05'30.175"N	104°48'51.705"W	0.81	
17339.00	91.080	181.770	7268.99	9547.43	-9548.05	-82.74	1692332.61	14560095.19	40°05'29.286"N	104°48'51.738"W	0.43	
17428.00	91.110	181.950	7267.29	9636.34	-9636.99	-85.62	1692329.90	14560006.28	40°05'28.407"N	104°48'51.776"W	0.21	
17518.00	90.980	182.260	7265.65	9726.25	-9726.91	-88.93	1692326.79	14559916.39	40°05'27.518"N	104°48'51.818"W	0.37	
17607.00	90.740	182.270	7264.32	9815.15	-9815.83	-92.45	1692323.46	14559827.50	40°05'26.640"N	104°48'51.863"W	0.27	
17697.00	90.890	181.470	7263.04	9905.07	-9905.78	-95.38	1692320.71	14559737.59	40°05'25.751"N	104°48'51.901"W	0.90	
17786.00	90.920	182.400	7261.63	9993.99	-9994.71	-98.39	1692317.89	14559648.68	40°05'24.872"N	104°48'51.940"W	1.05	
17875.00	90.370	181.680	7260.63	10082.91	-10083.65	-101.56	1692314.91	14559559.77	40°05'23.993"N	104°48'51.981"W	1.02	
17965.00	90.400	181.740	7260.02	10172.85	-10173.61	-104.24	1692312.42	14559469.84	40°05'23.104"N	104°48'52.015"W	0.07	
18054.00	90.280	182.950	7259.50	10261.75	-10262.53	-107.88	1692308.96	14559380.95	40°05'22.225"N	104°48'52.062"W	1.37	
18143.00	90.310	180.640	7259.04	10350.68	-10351.48	-110.67	1692306.36	14559292.03	40°05'21.346"N	104°48'52.098"W	2.60	
18233.00	90.430	177.670	7258.46	10440.66	-10441.46	-109.34	1692307.88	14559202.09	40°05'20.457"N	104°48'52.081"W	3.30	
18322.00	90.280	179.480	7257.90	10529.64	-10530.43	-107.13	1692310.28	14559113.16	40°05'19.578"N	104°48'52.052"W	2.04	
18412.00	90.120	179.240	7257.59	10619.64	-10620.42	-106.12	1692311.47	14559023.21	40°05'18.688"N	104°48'52.039"W	0.32	
18437.00†	90.207	179.010	7257.52	10644.64	-10645.42	-105.74	1692311.90	14558998.22	40°05'18.441"N	104°48'52.034"W	0.98	ENTER RADIUS TOE (402'FSL & 1098'FEL, SEC.31) 40.0884560 -104.8144540

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-12HZ AWB
Facility	SEC.19-T2N-R66W		

WELLPATH DATA (214 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
18501.00	90.430	178.420	7257.16	10708.63	-10709.40	-104.31	1692313.47	14558934.27	40°05'17.809"N	104°48'52.016"W	0.98	
18590.00	90.580	177.560	7256.38	10797.59	-10798.34	-101.19	1692316.78	14558845.37	40°05'16.930"N	104°48'51.976"W	0.98	
18610.00	90.220	177.060	7256.24	10817.57	-10818.32	-100.25	1692317.76	14558825.40	40°05'16.733"N	104°48'51.964"W	3.08	LAST BHGE MWD+IFR1+MSA SURVEY
18634.00	90.220	177.060	7256.15	10841.54	-10842.29	-99.02	1692319.04	14558801.44	40°05'16.496"N	104°48'51.948"W	0.00	PTB (205'FSL & 1091'FEL,SEC.31) 40.0879155 -104.8144300

HOLE & CASING SECTIONS - Ref Wellbore: CASTLE PINES 19-12HZ AWB Ref Wellpath: CASTLE PINES 19-12HZ 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	1855.00	1829.00	26.00	1839.55	0.00	0.00	145.63	-26.25

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-12HZ 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.30-T2N-R66W	2.00	1.42	-165.01	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	polygon
SEC.31-T2N-R66W	2.00	1.42	-165.01	1692230.40	14569640.66	40°07'03.655"N	104°48'52.798"W	polygon
CASTLE PINES 19-12HZ BHL REV-1(203'FSL & 1055'FEL,SEC.31)	7262.00	-10843.90	-62.96	1692355.08	14558799.91	40°05'16.480"N	104°48'51.484"W	point
CASTLE PINES 19-12HZ HEEL REV-1(577'FSL & 1098'FEL,SEC.19)	7295.00	93.60	-125.27	1692269.94	14569732.89	40°07'04.566"N	104°48'52.286"W	point
CASTLE PINES 19-12HZ LANDBOX	7295.00	0.00	0.00	1692395.35	14569639.59	40°07'03.641"N	104°48'50.674"W	polygon
CASTLE PINES 19-12HZ RADIUS 1	7295.00	-483.06	-347.90	1692048.60	14569156.00	40°06'58.867"N	104°48'55.152"W	polygon
CASTLE PINES 19-12HZ RADIUS 2	7295.00	-11047.53	-327.67	1692090.90	14558595.80	40°05'14.468"N	104°48'54.890"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: CASTLE PINES 19-12HZ AWB					Ref Wellpath: CASTLE PINES 19-12HZ AWP		
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment		Wellbore	
26.00	1805.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)		Custom APC ISCWSA Rev-2 MWD+IFR1 <136 - 1805>		CASTLE PINES 19-12HZ AWB	
1805.00	18610.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)		BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1805 - 18610>		CASTLE PINES 19-12HZ AWB	
18610.00	18634.00	Blind Drilling (std)		Projection to bit		CASTLE PINES 19-12HZ AWB	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 CASTLE PINES 19-12HZ(484'FSL & 973'FEL,SEC.19)
Area	COLORADO	Well	CASTLE PINES 19-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CASTLE PINES 19-12HZ AWP
Facility	SEC.19-T2N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
136.00	0.400	168.140	136.00	FIRST SURFACE MWD+IFR1 SURVEY
1805.00	17.360	346.820	1791.71	LAST SURFACE MWD+IFR1 SURVEY
1878.00	16.100	346.670	1861.62	FIRST BHGE MWD+IFR1+MSA SURVEY
6904.00	5.215	175.799	6820.87	KOP
7398.00	57.708	176.660	7230.20	ENTER LANDBOX (858'FSL & 1106'FEL,SEC.19) 40.1187042 -104.8145525
7707.00	90.235	178.622	7307.14	LANDING (564'FSL & 1095'FEL,SEC.19) 40.1178968 -104.8145113
8656.00	90.598	181.091	7295.08	EXIT RADIUS HEEL (384'FNL & 1068'FEL,SEC.30) 40.1152941 -104.8144147
18437.00	90.207	179.010	7257.52	ENTER RADIUS TOE (402'FSL & 1098'FEL,SEC.31) 40.0884560 -104.8144540
18610.00	90.220	177.060	7256.24	LAST BHGE MWD+IFR1+MSA SURVEY
18634.00	90.220	177.060	7256.15	PTB (205'FSL & 1091'FEL,SEC.31) 40.0879155 -104.8144300