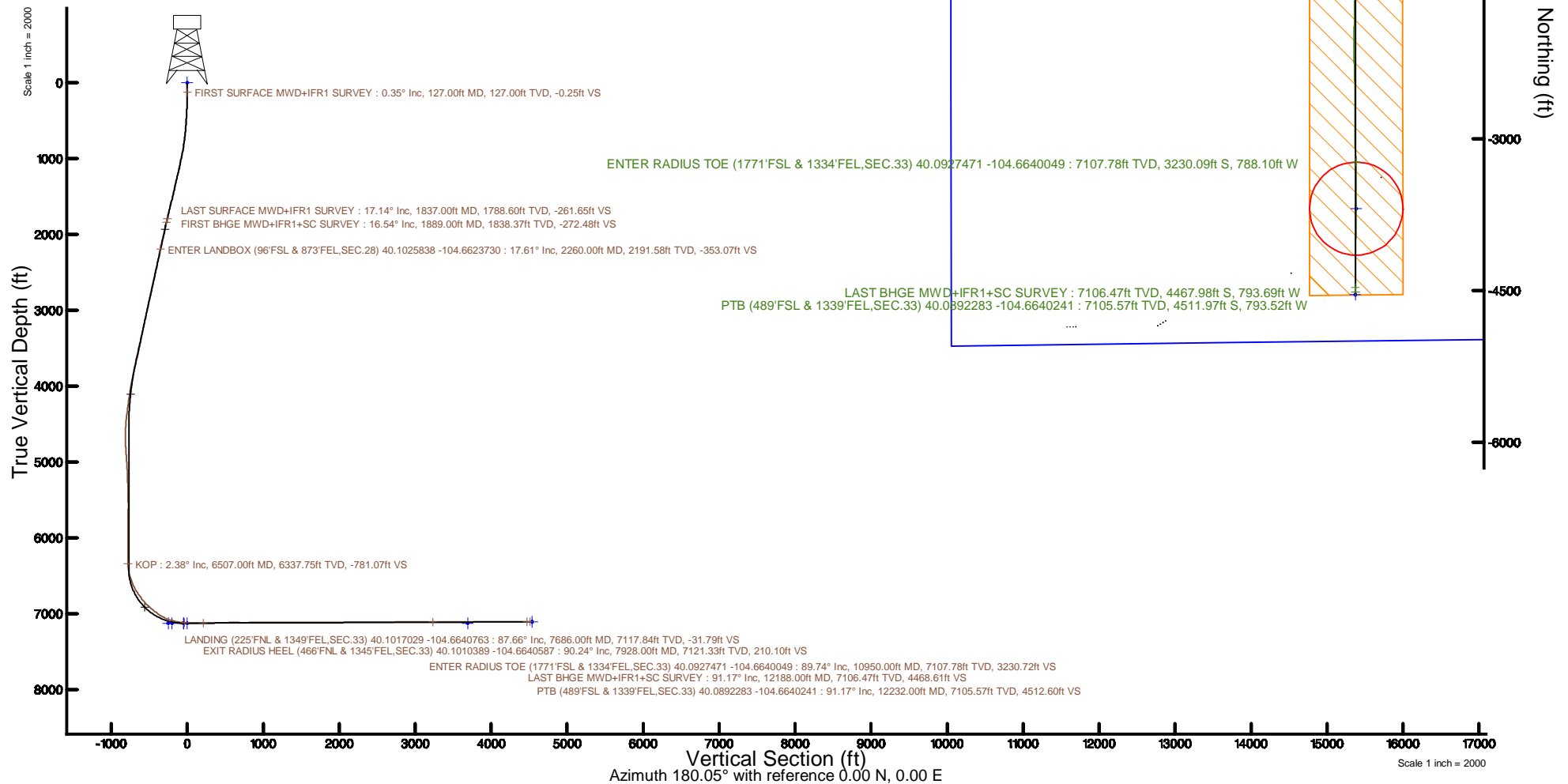


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#13 ROCKY 20N-33HZ (257'FNL & 541'FEL,SEC.33)
Field: WELD COUNTY (UTM/TRUE NORTH) Well: ROCKY 20N-33HZ
Facility: SEC.33-T2N-R65W Wellbore: ROCKY 20N-33HZ PWB

Plot reference wellpath is ROCKY 20N-33HZ PWB Rev.B.0	Grid System: NAD83 / UTM Zone 13 North, US feet
True vertical depths are referenced to Xtreme 22 (17) (RT)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to Xtreme 22 (17) (RT)	North Reference: True north
Xtreme 22 (17) (RT) to Mean Sea Level: 4947 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#13 ROCKY 20N-33HZ (257'FNL & 541'FEL,SEC.33)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2017-10-03
	Database: WA_DEN_Anadarko_Defn



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 ROCKY 20N-33HZ (257'FNL & 541'FEL,SEC.33)
Area	COLORADO	Well	ROCKY 20N-33HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ROCKY 20N-33HZ AWB
Facility	SEC.33-T2N-R65W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999610	Report Generated	10/3/2017 at 9:13 AM
Convergence at slot	0.22° East	Database/Source file	WA_DEN_Anadarko_Defn/ROCKY_20N-33HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	4859.53	3642.86	1735160.57	14563915.97	40°06'05.810"N	104°39'40.277"W
Facility Reference Pt			1731536.95	14559045.04	40°05'17.790"N	104°40'27.156"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Xtreme 22 (17') (RT) to Facility Vertical Datum	4947.00ft
Horizontal Reference Pt	Slot	Xtreme 22 (17') (RT) to Mean Sea Level	4947.00ft
Vertical Reference Pt	Xtreme 22 (17') (RT)	Xtreme 22 (17') (RT) to Mud Line at Slot (SLOT#13 ROCKY 20N-33HZ (257'FNL & 541'FEL,SEC.33))	4947.00ft
MD Reference Pt	Xtreme 22 (17') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	180.05°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 ROCKY 20N-33HZ (257'FNL & 541'FEL,SEC.33)
Area	COLORADO	Well	ROCKY 20N-33HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ROCKY 20N-33HZ AWB
Facility	SEC.33-T2N-R65W		

WELLPATH DATA (181 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	41.960	0.00	0.00	0.00	0.00	1735160.57	14563915.97	40°06'05.810"N	104°39'40.277"W	0.00	
17.00	0.000	41.960	17.00	0.00	0.00	0.00	1735160.57	14563915.97	40°06'05.810"N	104°39'40.277"W	0.00	
127.00	0.350	41.960	127.00	-0.25	0.25	0.22	1735160.80	14563916.22	40°06'05.812"N	104°39'40.274"W	0.32	FIRST SURFACE MWD+IFR1 SURVEY
159.00	0.350	358.280	159.00	-0.42	0.42	0.29	1735160.86	14563916.39	40°06'05.814"N	104°39'40.273"W	0.81	
191.00	0.700	345.800	191.00	-0.71	0.71	0.24	1735160.81	14563916.68	40°06'05.817"N	104°39'40.274"W	1.14	
222.00	1.230	337.090	221.99	-1.20	1.20	0.06	1735160.63	14563917.17	40°06'05.822"N	104°39'40.276"W	1.77	
254.00	1.760	333.840	253.98	-1.95	1.95	-0.29	1735160.28	14563917.92	40°06'05.829"N	104°39'40.281"W	1.68	
286.00	2.420	332.440	285.96	-2.99	2.99	-0.82	1735159.74	14563918.96	40°06'05.840"N	104°39'40.288"W	2.07	
317.00	2.810	330.330	316.93	-4.23	4.24	-1.50	1735159.06	14563920.20	40°06'05.852"N	104°39'40.296"W	1.30	
349.00	3.300	324.790	348.88	-5.67	5.67	-2.42	1735158.13	14563921.63	40°06'05.866"N	104°39'40.308"W	1.79	
381.00	3.520	321.800	380.83	-7.19	7.19	-3.56	1735156.99	14563923.15	40°06'05.881"N	104°39'40.323"W	0.88	
413.00	3.820	323.470	412.76	-8.82	8.82	-4.80	1735155.74	14563924.77	40°06'05.897"N	104°39'40.339"W	1.00	
444.00	4.130	321.360	443.69	-10.52	10.52	-6.11	1735154.43	14563926.46	40°06'05.914"N	104°39'40.356"W	1.11	
476.00	4.480	322.770	475.60	-12.41	12.42	-7.59	1735152.94	14563928.35	40°06'05.933"N	104°39'40.375"W	1.14	
508.00	4.830	317.760	507.49	-14.40	14.41	-9.25	1735151.27	14563930.34	40°06'05.952"N	104°39'40.396"W	1.68	
540.00	5.190	314.860	539.37	-16.42	16.43	-11.18	1735149.34	14563932.35	40°06'05.972"N	104°39'40.421"W	1.38	
571.00	5.670	316.790	570.23	-18.52	18.54	-13.22	1735147.29	14563934.45	40°06'05.993"N	104°39'40.447"W	1.66	
602.00	6.240	315.910	601.06	-20.85	20.86	-15.44	1735145.06	14563936.76	40°06'06.016"N	104°39'40.476"W	1.86	
634.00	7.250	318.370	632.84	-23.61	23.62	-17.99	1735142.50	14563939.51	40°06'06.043"N	104°39'40.509"W	3.28	
666.00	8.040	318.460	664.55	-26.79	26.80	-20.82	1735139.66	14563942.68	40°06'06.075"N	104°39'40.545"W	2.47	
698.00	8.790	319.250	696.21	-30.31	30.33	-23.90	1735136.57	14563946.20	40°06'06.110"N	104°39'40.585"W	2.37	
729.00	9.400	317.410	726.82	-33.97	33.99	-27.16	1735133.30	14563949.84	40°06'06.146"N	104°39'40.626"W	2.18	
761.00	9.930	317.060	758.37	-37.91	37.93	-30.81	1735129.63	14563953.77	40°06'06.185"N	104°39'40.673"W	1.67	
793.00	10.550	316.360	789.86	-42.05	42.07	-34.71	1735125.72	14563957.89	40°06'06.226"N	104°39'40.724"W	1.98	
824.00	11.430	316.970	820.29	-46.34	46.37	-38.76	1735121.65	14563962.17	40°06'06.268"N	104°39'40.776"W	2.86	
856.00	12.440	317.930	851.59	-51.21	51.25	-43.24	1735117.16	14563967.03	40°06'06.316"N	104°39'40.833"W	3.22	
888.00	13.540	318.990	882.78	-56.60	56.63	-48.00	1735112.37	14563972.40	40°06'06.370"N	104°39'40.895"W	3.52	
919.00	14.590	320.480	912.85	-62.34	62.39	-52.87	1735107.49	14563978.13	40°06'06.426"N	104°39'40.957"W	3.58	
951.00	14.630	320.660	943.81	-68.57	68.62	-58.00	1735102.34	14563984.34	40°06'06.488"N	104°39'41.023"W	0.19	
982.00	14.500	318.900	973.82	-74.52	74.57	-63.03	1735097.28	14563990.27	40°06'06.547"N	104°39'41.088"W	1.49	
1014.00	14.810	318.370	1004.77	-80.59	80.65	-68.38	1735091.91	14563996.32	40°06'06.607"N	104°39'41.157"W	1.06	
1046.00	15.160	317.760	1035.69	-86.74	86.80	-73.91	1735086.36	14564002.45	40°06'06.668"N	104°39'41.228"W	1.20	
1077.00	15.340	316.970	1065.59	-92.74	92.80	-79.43	1735080.82	14564008.43	40°06'06.727"N	104°39'41.299"W	0.89	
1108.00	15.910	317.140	1095.45	-98.84	98.91	-85.12	1735075.11	14564014.52	40°06'06.787"N	104°39'41.372"W	1.84	
1140.00	16.700	316.620	1126.16	-105.40	105.47	-91.26	1735068.95	14564021.05	40°06'06.852"N	104°39'41.451"W	2.51	
1172.00	17.580	317.140	1156.74	-112.28	112.35	-97.71	1735062.48	14564027.91	40°06'06.920"N	104°39'41.534"W	2.79	
1204.00	18.460	318.110	1187.17	-119.58	119.67	-104.38	1735055.78	14564035.19	40°06'06.993"N	104°39'41.620"W	2.91	
1235.00	18.150	316.970	1216.60	-126.76	126.85	-110.95	1735049.18	14564042.35	40°06'07.064"N	104°39'41.705"W	1.53	
1267.00	17.800	316.440	1247.04	-133.94	134.04	-117.72	1735042.39	14564049.51	40°06'07.135"N	104°39'41.792"W	1.21	
1299.00	18.020	316.440	1277.49	-141.07	141.17	-124.50	1735035.58	14564056.61	40°06'07.205"N	104°39'41.879"W	0.69	
1330.00	18.060	316.180	1306.96	-148.01	148.11	-131.13	1735028.93	14564063.52	40°06'07.274"N	104°39'41.965"W	0.29	
1362.00	17.890	315.740	1337.40	-155.10	155.21	-138.00	1735022.04	14564070.59	40°06'07.344"N	104°39'42.053"W	0.68	
1394.00	17.490	315.470	1367.89	-162.04	162.16	-144.80	1735015.21	14564077.51	40°06'07.412"N	104°39'42.140"W	1.28	
1425.00	17.750	314.420	1397.44	-168.67	168.79	-151.44	1735008.55	14564084.11	40°06'07.478"N	104°39'42.226"W	1.32	
1457.00	18.150	314.770	1427.88	-175.58	175.71	-158.46	1735001.50	14564091.01	40°06'07.546"N	104°39'42.316"W	1.29	

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)		Slot	SLOT#13 ROCKY 20N-33HZ (257'FNL & 541'FEL,SEC.33)
Area	COLORADO		Well	ROCKY 20N-33HZ
Field	WELD COUNTY (UTM/TRUE NORTH)		Wellbore	ROCKY 20N-33HZ AWB
Facility	SEC.33-T2N-R65W			

WELLPATH DATA (181 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
1489.00	18.240	313.800	1458.28	-182.55	182.69	-165.62	1734994.33	14564097.95	40°06'07.615"N	104°39'42.408"W	0.99	
1520.00	18.500	314.590	1487.70	-189.36	189.50	-172.62	1734987.30	14564104.73	40°06'07.683"N	104°39'42.498"W	1.16	
1552.00	18.410	316.000	1518.05	-196.55	196.70	-179.75	1734980.15	14564111.90	40°06'07.754"N	104°39'42.590"W	1.42	
1584.00	18.900	316.700	1548.37	-203.95	204.10	-186.81	1734973.06	14564119.28	40°06'07.827"N	104°39'42.681"W	1.68	
1616.00	18.940	316.440	1578.64	-211.48	211.64	-193.95	1734965.90	14564126.78	40°06'07.901"N	104°39'42.773"W	0.29	
1646.00	17.970	317.850	1607.10	-218.44	218.60	-200.41	1734959.41	14564133.72	40°06'07.970"N	104°39'42.856"W	3.56	
1678.00	17.930	318.020	1637.54	-225.75	225.92	-207.01	1734952.78	14564141.01	40°06'08.043"N	104°39'42.941"W	0.21	
1710.00	18.110	316.790	1667.97	-233.03	233.21	-213.71	1734946.06	14564148.27	40°06'08.115"N	104°39'43.027"W	1.32	
1741.00	18.330	316.620	1697.42	-240.08	240.26	-220.36	1734939.39	14564155.29	40°06'08.184"N	104°39'43.113"W	0.73	
1773.00	18.460	315.470	1727.78	-247.35	247.53	-227.37	1734932.35	14564162.53	40°06'08.256"N	104°39'43.203"W	1.20	
1805.00	18.500	315.910	1758.13	-254.60	254.79	-234.45	1734925.24	14564169.76	40°06'08.328"N	104°39'43.294"W	0.45	
1837.00	17.140	316.260	1788.60	-261.65	261.84	-241.25	1734918.42	14564176.79	40°06'08.398"N	104°39'43.382"W	4.26	LAST SURFACE MWD+IFR1 SURVEY
1889.00	16.540	315.740	1838.37	-272.48	272.68	-251.71	1734907.92	14564187.58	40°06'08.505"N	104°39'43.516"W	1.19	FIRST BHGE MWD+IFR1+SC SURVEY
1977.00	18.270	317.350	1922.33	-291.58	291.80	-269.80	1734889.77	14564206.62	40°06'08.694"N	104°39'43.749"W	2.04	
2064.00	17.930	315.700	2005.03	-311.18	311.41	-288.39	1734871.11	14564226.16	40°06'08.887"N	104°39'43.988"W	0.71	
2152.00	17.920	314.170	2088.76	-330.29	330.54	-307.56	1734851.87	14564245.20	40°06'09.076"N	104°39'44.235"W	0.54	
2239.00	17.780	313.260	2171.57	-348.71	348.97	-326.84	1734832.54	14564263.55	40°06'09.259"N	104°39'44.483"W	0.36	
2260.00†	17.608	313.136	2191.58	-353.07	353.34	-331.49	1734827.87	14564267.90	40°06'09.302"N	104°39'44.543"W	0.84	ENTER LANDBOX (96°FSL & 873°FEL, SEC.28) 40.1025838 -104.6623730
2326.00	17.070	312.730	2254.58	-366.46	366.74	-345.89	1734813.42	14564281.24	40°06'09.434"N	104°39'44.728"W	0.84	
2414.00	18.310	312.510	2338.42	-384.55	384.84	-365.57	1734793.68	14564299.26	40°06'09.613"N	104°39'44.981"W	1.41	
2502.00	18.100	311.670	2422.01	-402.96	403.27	-385.97	1734773.22	14564317.61	40°06'09.795"N	104°39'45.244"W	0.38	
2589.00	17.730	310.850	2504.79	-420.59	420.92	-406.09	1734753.05	14564335.17	40°06'09.970"N	104°39'45.503"W	0.51	
2677.00	18.020	311.990	2588.54	-438.45	438.79	-426.34	1734732.73	14564352.96	40°06'10.146"N	104°39'45.764"W	0.52	
2764.00	18.430	315.180	2671.18	-457.19	457.55	-446.03	1734712.97	14564371.64	40°06'10.332"N	104°39'46.017"W	1.24	
2852.00	17.710	313.410	2754.84	-476.24	476.61	-465.56	1734693.38	14564390.62	40°06'10.520"N	104°39'46.268"W	1.03	
2939.00	16.930	312.300	2837.90	-493.84	494.23	-484.55	1734674.34	14564408.16	40°06'10.694"N	104°39'46.513"W	0.97	
3027.00	18.420	310.870	2921.74	-511.55	511.95	-504.54	1734654.29	14564425.80	40°06'10.869"N	104°39'46.770"W	1.76	
3114.00	18.370	310.440	3004.30	-529.42	529.84	-525.37	1734633.40	14564443.60	40°06'11.046"N	104°39'47.038"W	0.17	
3227.00	17.460	309.820	3111.82	-551.80	552.25	-551.94	1734606.75	14564465.89	40°06'11.267"N	104°39'47.380"W	0.82	
3315.00	18.550	310.740	3195.51	-569.38	569.84	-572.68	1734585.95	14564483.40	40°06'11.441"N	104°39'47.647"W	1.28	
3402.00	18.090	309.840	3278.10	-587.05	587.52	-593.54	1734565.03	14564501.00	40°06'11.616"N	104°39'47.915"W	0.62	
3489.00	17.110	309.140	3361.02	-603.76	604.25	-613.84	1734544.68	14564517.64	40°06'11.781"N	104°39'48.177"W	1.15	
3577.00	17.650	309.250	3445.00	-620.36	620.87	-634.21	1734524.25	14564534.17	40°06'11.945"N	104°39'48.439"W	0.61	
3664.00	17.420	312.430	3527.96	-637.47	638.00	-654.04	1734504.37	14564551.22	40°06'12.115"N	104°39'48.694"W	1.13	
3752.00	17.900	317.730	3611.82	-656.35	656.89	-672.86	1734485.48	14564570.04	40°06'12.301"N	104°39'48.936"W	1.91	
3839.00	18.530	318.760	3694.46	-676.63	677.18	-690.96	1734467.31	14564590.25	40°06'12.502"N	104°39'49.169"W	0.81	
3927.00	17.290	316.770	3778.20	-696.66	697.23	-709.14	1734449.06	14564610.22	40°06'12.700"N	104°39'49.403"W	1.57	
4014.00	16.210	314.760	3861.50	-714.62	715.20	-726.62	1734431.52	14564628.11	40°06'12.878"N	104°39'49.628"W	1.41	
4101.00	15.100	313.580	3945.28	-730.96	731.56	-743.45	1734414.63	14564644.41	40°06'13.039"N	104°39'49.845"W	1.33	
4189.00	14.090	312.770	4030.44	-746.13	746.74	-759.62	1734398.42	14564659.52	40°06'13.189"N	104°39'50.053"W	1.17	
4276.00	13.070	309.120	4115.00	-759.51	760.14	-775.02	1734382.96	14564672.85	40°06'13.322"N	104°39'50.251"W	1.53	
4364.00	12.100	312.710	4200.89	-772.04	772.67	-789.52	1734368.42	14564685.32	40°06'13.446"N	104°39'50.437"W	1.42	
4451.00	9.890	319.760	4286.29	-783.92	784.56	-801.05	1734356.86	14564697.17	40°06'13.563"N	104°39'50.586"W	2.97	
4538.00	9.020	323.750	4372.11	-795.11	795.76	-809.91	1734347.96	14564708.33	40°06'13.674"N	104°39'50.700"W	1.25	
4626.00	6.970	319.600	4459.25	-804.74	805.39	-817.45	1734340.38	14564717.93	40°06'13.769"N	104°39'50.797"W	2.42	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 ROCKY 20N-33HZ (257'FNL & 541'FEL,SEC.33)
Area	COLORADO	Well	ROCKY 20N-33HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ROCKY 20N-33HZ AWB
Facility	SEC.33-T2N-R65W		

WELLPATH DATA (181 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
4714.00	5.140	309.650	4546.76	-811.32	811.98	-823.95	1734333.86	14564724.48	40°06'13.834"N	104°39'50.880"W	2.39	
4801.00	2.050	289.080	4633.58	-814.31	814.97	-828.42	1734329.38	14564727.46	40°06'13.864"N	104°39'50.938"W	3.79	
4888.00	1.490	189.280	4720.55	-813.70	814.37	-830.07	1734327.73	14564726.85	40°06'13.858"N	104°39'50.959"W	3.14	
4976.00	3.560	167.670	4808.46	-809.90	810.57	-829.67	1734328.14	14564723.05	40°06'13.820"N	104°39'50.954"W	2.55	
5064.00	3.670	160.770	4896.29	-804.57	805.24	-828.16	1734329.68	14564717.73	40°06'13.767"N	104°39'50.935"W	0.51	
5151.00	4.210	174.720	4983.09	-798.76	799.43	-826.95	1734330.91	14564711.93	40°06'13.710"N	104°39'50.919"W	1.26	
5238.00	3.960	175.550	5069.87	-792.59	793.25	-826.42	1734331.46	14564705.76	40°06'13.649"N	104°39'50.912"W	0.30	
5326.00	2.400	155.080	5157.73	-787.89	788.55	-825.41	1734332.49	14564701.06	40°06'13.602"N	104°39'50.899"W	2.17	
5414.00	3.250	126.230	5245.63	-784.75	785.41	-822.62	1734335.29	14564697.93	40°06'13.571"N	104°39'50.863"W	1.85	
5501.00	3.820	123.000	5332.46	-781.71	782.37	-818.20	1734339.72	14564694.91	40°06'13.541"N	104°39'50.807"W	0.69	
5589.00	3.520	118.770	5420.28	-778.82	779.47	-813.38	1734344.55	14564692.03	40°06'13.513"N	104°39'50.744"W	0.46	
5676.00	2.960	95.030	5507.14	-777.34	777.99	-808.80	1734349.14	14564690.57	40°06'13.498"N	104°39'50.686"W	1.66	
5764.00	2.650	88.300	5595.04	-777.21	777.85	-804.50	1734353.43	14564690.45	40°06'13.497"N	104°39'50.630"W	0.51	
5851.00	2.150	85.490	5681.96	-777.40	778.04	-800.86	1734357.07	14564690.65	40°06'13.499"N	104°39'50.583"W	0.59	
5939.00	1.960	73.100	5769.91	-777.97	778.61	-797.78	1734360.15	14564691.23	40°06'13.504"N	104°39'50.544"W	0.55	
6026.00	1.730	63.740	5856.86	-778.98	779.62	-795.18	1734362.74	14564692.25	40°06'13.514"N	104°39'50.510"W	0.43	
6113.00	1.770	68.360	5943.82	-780.06	780.70	-792.75	1734365.17	14564693.34	40°06'13.525"N	104°39'50.479"W	0.17	
6200.00	1.690	59.530	6030.78	-781.21	781.84	-790.40	1734367.52	14564694.49	40°06'13.536"N	104°39'50.449"W	0.32	
6288.00	0.160	44.430	6118.77	-781.96	782.59	-789.19	1734368.72	14564695.24	40°06'13.544"N	104°39'50.433"W	1.75	
6375.00	0.220	33.300	6205.77	-782.18	782.82	-789.01	1734368.89	14564695.47	40°06'13.546"N	104°39'50.431"W	0.08	
6462.00	0.580	234.080	6292.77	-782.06	782.70	-789.28	1734368.63	14564695.35	40°06'13.545"N	104°39'50.434"W	0.91	
6507.00†	2.382	203.193	6337.75	-781.07	781.71	-789.83	1734368.08	14564694.35	40°06'13.535"N	104°39'50.441"W	4.24	KOP
6549.00	4.150	199.350	6379.68	-778.83	779.47	-790.68	1734367.24	14564692.12	40°06'13.513"N	104°39'50.452"W	4.24	
6637.00	13.140	184.620	6466.60	-765.83	766.47	-792.54	1734365.43	14564679.11	40°06'13.384"N	104°39'50.476"W	10.44	
6724.00	20.710	182.940	6549.77	-740.57	741.21	-794.13	1734363.94	14564653.86	40°06'13.135"N	104°39'50.497"W	8.72	
6812.00	24.220	180.490	6631.08	-706.97	707.61	-795.08	1734363.11	14564620.27	40°06'12.803"N	104°39'50.509"W	4.13	
6899.00	31.640	176.960	6707.90	-666.28	666.92	-794.03	1734364.32	14564579.60	40°06'12.400"N	104°39'50.495"W	8.73	
6986.00	36.820	178.370	6779.81	-617.40	618.04	-792.07	1734366.46	14564530.74	40°06'11.917"N	104°39'50.470"W	6.02	
7074.00	42.620	183.250	6847.48	-561.23	561.87	-793.01	1734365.74	14564474.59	40°06'11.362"N	104°39'50.482"W	7.48	
7161.00	47.640	185.570	6908.84	-499.79	500.43	-797.81	1734361.18	14564413.16	40°06'10.755"N	104°39'50.544"W	6.07	
7249.00	51.840	182.990	6965.71	-432.84	433.48	-802.77	1734356.47	14564346.22	40°06'10.094"N	104°39'50.608"W	5.27	
7336.00	56.060	181.280	7016.90	-362.56	363.21	-805.36	1734354.15	14564275.97	40°06'09.399"N	104°39'50.641"W	5.10	
7424.00	66.160	179.850	7059.36	-285.62	286.27	-806.07	1734353.73	14564199.05	40°06'08.639"N	104°39'50.650"W	11.56	
7511.00	73.610	180.110	7089.26	-203.99	204.63	-806.05	1734354.07	14564117.45	40°06'07.832"N	104°39'50.650"W	8.57	
7599.00	80.560	181.170	7108.92	-118.27	118.92	-807.02	1734353.43	14564031.77	40°06'06.985"N	104°39'50.662"W	7.98	
7686.00	87.660	180.120	7117.84	-31.79	32.44	-807.99	1734352.79	14563945.32	40°06'06.130"N	104°39'50.675"W	8.25	LANDING (225'FNL & 1349'FEL,SEC.33) 40.1017029 -104.6640763
7774.00	89.200	178.950	7120.25	56.17	-55.52	-807.27	1734353.84	14563857.40	40°06'05.261"N	104°39'50.666"W	2.20	
7861.00	89.540	178.430	7121.21	143.14	-142.49	-805.28	1734356.15	14563770.47	40°06'04.402"N	104°39'50.640"W	0.71	
7928.00†	90.240	177.775	7121.33	210.10	-209.45	-803.06	1734358.63	14563703.54	40°06'03.740"N	104°39'50.611"W	1.43	EXIT RADIUS HEEL (466'FNL & 1345'FEL,SEC.33) 40.1010389 -104.6640587
7949.00	90.460	177.570	7121.21	231.08	-230.44	-802.21	1734359.56	14563682.57	40°06'03.533"N	104°39'50.600"W	1.43	
8036.00	91.350	176.630	7119.83	317.95	-317.31	-797.81	1734364.29	14563595.74	40°06'02.674"N	104°39'50.544"W	1.49	
8124.00	91.200	176.540	7117.87	405.77	-405.13	-792.57	1734369.86	14563507.98	40°06'01.806"N	104°39'50.476"W	0.20	
8211.00	90.090	177.030	7116.89	492.62	-491.99	-787.69	1734375.07	14563421.17	40°06'00.948"N	104°39'50.413"W	1.39	
8299.00	90.430	178.790	7116.49	580.56	-579.93	-784.48	1734378.61	14563333.28	40°06'00.079"N	104°39'50.372"W	2.04	
8386.00	89.510	180.870	7116.54	667.55	-666.92	-784.22	1734379.20	14563246.33	40°05'59.219"N	104°39'50.369"W	2.61	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 ROCKY 20N-33HZ (257'FNL & 541'FEL,SEC.33)
Area	COLORADO	Well	ROCKY 20N-33HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ROCKY 20N-33HZ AWB
Facility	SEC.33-T2N-R65W		

WELLPATH DATA (181 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
8473.00	90.090	180.020	7116.84	754.55	-753.92	-784.90	1734378.86	14563159.36	40°05'58.360"N	104°39'50.377"W	1.18	
8560.00	90.310	180.470	7116.54	841.55	-840.92	-785.27	1734378.82	14563072.40	40°05'57.500"N	104°39'50.382"W	0.58	
8648.00	91.110	180.350	7115.45	929.54	-928.91	-785.90	1734378.52	14562984.44	40°05'56.630"N	104°39'50.390"W	0.92	
8736.00	89.970	181.850	7114.62	1017.51	-1016.88	-787.59	1734377.17	14562896.49	40°05'55.761"N	104°39'50.412"W	2.14	
8823.00	90.800	181.350	7114.04	1104.48	-1103.84	-790.02	1734375.07	14562809.56	40°05'54.902"N	104°39'50.443"W	1.11	
8911.00	89.940	180.930	7113.47	1192.46	-1191.82	-791.77	1734373.66	14562721.60	40°05'54.032"N	104°39'50.466"W	1.09	
8998.00	90.150	180.350	7113.40	1279.45	-1278.82	-792.74	1734373.02	14562634.64	40°05'53.172"N	104°39'50.478"W	0.71	
9086.00	88.920	181.620	7114.11	1367.44	-1366.80	-794.25	1734371.84	14562546.69	40°05'52.303"N	104°39'50.497"W	2.01	
9173.00	89.080	181.470	7115.63	1454.39	-1453.75	-796.60	1734369.83	14562459.76	40°05'51.444"N	104°39'50.528"W	0.25	
9261.00	89.940	181.370	7116.38	1542.36	-1541.72	-798.78	1734367.98	14562371.82	40°05'50.574"N	104°39'50.556"W	0.98	
9348.00	90.280	181.100	7116.22	1629.34	-1628.70	-800.66	1734366.44	14562284.87	40°05'49.715"N	104°39'50.580"W	0.50	
9435.00	90.680	181.130	7115.49	1716.33	-1715.68	-802.35	1734365.08	14562197.91	40°05'48.855"N	104°39'50.601"W	0.46	
9522.00	90.620	181.150	7114.50	1803.31	-1802.66	-804.08	1734363.68	14562110.97	40°05'47.996"N	104°39'50.624"W	0.07	
9610.00	91.050	181.400	7113.22	1891.28	-1890.63	-806.04	1734362.06	14562023.02	40°05'47.126"N	104°39'50.649"W	0.57	
9697.00	89.410	180.130	7112.87	1978.26	-1977.62	-807.20	1734361.23	14561936.07	40°05'46.267"N	104°39'50.664"W	2.38	
9785.00	89.720	179.810	7113.54	2066.26	-2065.61	-807.15	1734361.61	14561848.11	40°05'45.397"N	104°39'50.663"W	0.51	
9872.00	89.600	179.630	7114.05	2153.26	-2152.61	-806.73	1734362.36	14561761.15	40°05'44.537"N	104°39'50.658"W	0.25	
9960.00	90.150	179.320	7114.25	2241.25	-2240.61	-805.92	1734363.50	14561673.19	40°05'43.668"N	104°39'50.647"W	0.72	
10047.00	89.940	178.620	7114.18	2328.24	-2327.59	-804.36	1734365.40	14561586.24	40°05'42.808"N	104°39'50.627"W	0.84	
10134.00	89.780	177.730	7114.39	2415.19	-2414.55	-801.59	1734368.50	14561499.33	40°05'41.949"N	104°39'50.591"W	1.04	
10222.00	90.250	177.770	7114.37	2503.12	-2502.48	-798.13	1734372.29	14561411.45	40°05'41.080"N	104°39'50.547"W	0.54	
10309.00	91.110	180.190	7113.33	2590.09	-2589.45	-796.58	1734374.17	14561324.52	40°05'40.221"N	104°39'50.527"W	2.95	
10396.00	91.360	179.880	7111.46	2677.07	-2676.43	-796.64	1734374.45	14561237.57	40°05'39.361"N	104°39'50.528"W	0.46	
10484.00	91.910	179.630	7108.95	2765.03	-2764.39	-796.26	1734375.16	14561149.65	40°05'38.492"N	104°39'50.523"W	0.69	
10571.00	91.320	180.310	7106.50	2852.00	-2851.36	-796.21	1734375.53	14561062.72	40°05'37.632"N	104°39'50.522"W	1.03	
10659.00	89.850	181.320	7105.60	2939.98	-2939.34	-797.47	1734374.62	14560974.76	40°05'36.763"N	104°39'50.538"W	2.03	
10746.00	89.570	178.910	7106.04	3026.97	-3026.33	-797.64	1734374.77	14560887.81	40°05'35.903"N	104°39'50.540"W	2.79	
10834.00	89.570	176.650	7106.70	3114.90	-3114.26	-794.23	1734378.52	14560799.93	40°05'35.034"N	104°39'50.496"W	2.57	
10921.00	89.320	176.990	7107.54	3201.75	-3201.12	-789.41	1734383.67	14560713.12	40°05'34.176"N	104°39'50.434"W	0.49	
10950.00†	89.735	177.834	7107.78	3230.72	-3230.09	-788.10	1734385.09	14560684.17	40°05'33.890"N	104°39'50.417"W	3.24	ENTER RADIUS TOE (1771'FSL & 1334'FEL,SEC.33) 40.0927471 -104.6640049
11009.00	90.580	179.550	7107.62	3289.70	-3289.07	-786.75	1734386.66	14560625.21	40°05'33.307"N	104°39'50.400"W	3.24	
11096.00	89.480	180.180	7107.57	3376.70	-3376.07	-786.54	1734387.20	14560538.25	40°05'32.447"N	104°39'50.397"W	1.46	
11184.00	89.910	180.090	7108.04	3464.70	-3464.07	-786.75	1734387.32	14560450.29	40°05'31.577"N	104°39'50.400"W	0.50	
11270.00	90.620	179.850	7107.64	3550.70	-3550.07	-786.71	1734387.70	14560364.32	40°05'30.728"N	104°39'50.399"W	0.87	
11357.00	89.600	180.430	7107.48	3637.69	-3637.06	-786.92	1734387.82	14560277.36	40°05'29.868"N	104°39'50.402"W	1.35	
11445.00	89.690	180.030	7108.02	3725.69	-3725.06	-787.27	1734387.80	14560189.40	40°05'28.998"N	104°39'50.407"W	0.47	
11532.00	89.880	180.630	7108.35	3812.69	-3812.06	-787.77	1734387.63	14560102.43	40°05'28.139"N	104°39'50.413"W	0.72	
11620.00	90.340	181.350	7108.18	3900.68	-3900.04	-789.29	1734386.44	14560014.47	40°05'27.269"N	104°39'50.433"W	0.97	
11707.00	90.950	180.760	7107.20	3987.66	-3987.02	-790.90	1734385.17	14559927.52	40°05'26.409"N	104°39'50.453"W	0.98	
11795.00	89.110	180.430	7107.15	4075.65	-4075.01	-791.81	1734384.59	14559839.56	40°05'25.540"N	104°39'50.465"W	2.12	
11882.00	89.380	180.620	7108.30	4162.64	-4162.00	-792.61	1734384.13	14559752.61	40°05'24.680"N	104°39'50.475"W	0.38	
11970.00	89.850	180.390	7108.89	4250.63	-4250.00	-793.38	1734383.69	14559664.64	40°05'23.811"N	104°39'50.485"W	0.59	
12058.00	90.620	180.450	7108.53	4338.63	-4337.99	-794.03	1734383.38	14559576.68	40°05'22.941"N	104°39'50.493"W	0.88	
12146.00	91.020	179.470	7107.27	4426.62	-4425.98	-793.97	1734383.78	14559488.73	40°05'22.072"N	104°39'50.492"W	1.20	
12188.00	91.170	179.780	7106.47	4468.61	-4467.98	-793.69	1734384.21	14559446.75	40°05'21.657"N	104°39'50.489"W	0.82	LAST BHGE MWD+IFR1+SC SURVEY

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 ROCKY 20N-33HZ (257'FNL & 541'FEL,SEC.33)
Area	COLORADO	Well	ROCKY 20N-33HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ROCKY 20N-33HZ AWB
Facility	SEC.33-T2N-R65W		

WELLPATH DATA (181 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
12232.00	91.170	179.780	7105.57	4512.60	-4511.97	-793.52	1734384.55	14559402.78	40°05'21.222"N	104°39'50.487"W	0.00	PTB (489'FSL & 1339'FEL,SEC.33) 40.0892283 -104.6640241

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.33-T2N-R65W	0.00	0.81	-89.75	1735070.85	14563916.44	40°06'05.818"N	104°39'41.432"W	polygon
ROCKY 20N-33HZ BHL REV-1(462'FSL & 1340'FEL,SEC.33)	7107.00	-4538.67	-795.18	1734383.00	14559376.08	40°05'20.958"N	104°39'50.508"W	point
ROCKY 20N-33HZ HEEL REV-1(51'FNL & 1320'FEL,SEC.33)	7125.00	201.14	-778.52	1734381.60	14564114.07	40°06'07.798"N	104°39'50.296"W	point
ROCKY 20N-33HZ HEEL REV-2(201'FNL & 1313'FEL,SEC.33)	7125.00	51.14	-771.52	1734389.17	14563964.15	40°06'06.315"N	104°39'50.205"W	point
ROCKY 20N-33HZ HEEL REV-3(201'FNL & 1333'FEL,SEC.33)	7125.00	51.14	-791.52	1734369.18	14563964.08	40°06'06.315"N	104°39'50.463"W	point
ROCKY 20N-33HZ LANDBOX	7125.00	0.00	0.00	1735160.57	14563915.97	40°06'05.810"N	104°39'40.277"W	polygon
ROCKY 20N-33HZ RADIUS 1	7125.00	250.84	-790.33	1734369.60	14564163.70	40°06'08.289"N	104°39'50.448"W	polygon
ROCKY 20N-33HZ RADIUS 2	7125.00	-3689.24	-786.63	1734388.30	14560225.20	40°05'29.352"N	104°39'50.398"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: ROCKY 20N-33HZ AWP					Ref Wellpath: ROCKY 20N-33HZ AWP		
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment		Wellbore	
17.00	1837.00	Custom APC_ISCWSA REV 2 MWD+IFR1 (approximation)		Custom APC ISCWSA Rev-2 MWD+IFR1 <127 - 1837>		ROCKY 20N-33HZ AWB	
1837.00	12188.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)		BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+SC <1889 - 12188>		ROCKY 20N-33HZ AWB	
12188.00	12232.00	Blind Drilling (std)		Projection to bit		ROCKY 20N-33HZ AWB	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 ROCKY 20N-33HZ (257'FNL & 541'FEL,SEC.33)
Area	COLORADO	Well	ROCKY 20N-33HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ROCKY 20N-33HZ AWB
Facility	SEC.33-T2N-R65W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
127.00	0.350	41.960	127.00	FIRST SURFACE MWD+IFR1 SURVEY
1837.00	17.140	316.260	1788.60	LAST SURFACE MWD+IFR1 SURVEY
1889.00	16.540	315.740	1838.37	FIRST BHGE MWD+IFR1+SC SURVEY
2260.00	17.608	313.136	2191.58	ENTER LANDBOX (96'FSL & 873'FEL,SEC.28) 40.1025838 -104.6623730
6507.00	2.382	203.193	6337.75	KOP
7686.00	87.660	180.120	7117.84	LANDING (225'FNL & 1349'FEL,SEC.33) 40.1017029 -104.6640763
7928.00	90.240	177.775	7121.33	EXIT RADIUS HEEL (466'FNL & 1345'FEL,SEC.33) 40.1010389 -104.6640587
10950.00	89.735	177.834	7107.78	ENTER RADIUS TOE (1771'FSL & 1334'FEL,SEC.33) 40.0927471 -104.6640049
12188.00	91.170	179.780	7106.47	LAST BHGE MWD+IFR1+SC SURVEY
12232.00	91.170	179.780	7105.57	PTB (489'FSL & 1339'FEL,SEC.33) 40.0892283 -104.6640241