

Location:	COLORADO	Slot:	SLOT#37 ENGLISH FARMS 8-11HZ (303'FSL & 2316'FEL, SEC.08)
Field:	WELD COUNTY (UTM/TRUE NORTH)	Well:	ENGLISH FARMS 8-11HZ
Facility:	SEC.08-T1N-R65W	Wellbore:	ENGLISH FARMS 8-11HZ PWB



Plot reference wellpath is ENGLISH FARMS 9-11HZ 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 geocentric datum
Measured depths are referenced to PD 564 (26) (RT)	North Reference: True north
PD 564 (26) (RT) to Mean Sea Level: 4971 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT937 ENGLISH FARMS 9-11HZ (X30FSL & 2316FEL, SEC 08): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painesr on 2018-07-03
	Database: WA_DEN_Aradiskio_Deln



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 ENGLISH FARMS 8-11HZ (303'FSL & 2316'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-11HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-11HZ AWP
Facility	SEC.08-T1N-R65W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999609	Report Generated	7/3/2018 at 9:50 AM
Convergence at slot	0.21° East	Database/Source file	WA_DEN_Anadarko_Defn/ENGLISH_FARMS_8-11HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-4249.40	-1674.78	1728062.75	14548585.08	40°03'34.506"N	104°41'12.347"W
Facility Reference Pt			1729721.63	14552838.79	40°04'16.500"N	104°40'50.808"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	4971.00ft
Horizontal Reference Pt	Slot	PD 564 (26') (RT) to Mean Sea Level	4971.00ft
Vertical Reference Pt	PD 564 (26') (RT)	PD 564 (26') (RT) to Mud Line at Slot (SLOT#37 ENGLISH FARMS 8-11HZ (303'FSL & 2316'FEL, SEC.08))	4971.00ft
MD Reference Pt	PD 564 (26') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	180.14°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 ENGLISH FARMS 8-11HZ (303'FSL & 2316'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-11HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-11HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (263 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	0.00	98.500	0.00	0.00	0.00	0.00	1728062.75	14548585.08	40°03'34.506"N	104°41'12.347"W	0.00	
26.00	0.00	98.500	26.00	0.00	0.00	0.00	1728062.75	14548585.08	40°03'34.506"N	104°41'12.347"W	0.00	
134.00	0.400	98.500	134.00	0.05	-0.06	0.37	1728063.12	14548585.03	40°03'34.505"N	104°41'12.342"W	0.37	FIRST SURFACE MWD+IFR1 SURVEY
166.00	0.310	98.050	166.00	0.08	-0.08	0.57	1728063.32	14548585.00	40°03'34.505"N	104°41'12.340"W	0.28	
198.00	0.350	120.020	198.00	0.14	-0.15	0.74	1728063.49	14548584.94	40°03'34.505"N	104°41'12.337"W	0.41	
229.00	0.350	142.080	229.00	0.27	-0.27	0.88	1728063.63	14548584.82	40°03'34.503"N	104°41'12.336"W	0.43	
261.00	0.260	91.280	261.00	0.34	-0.35	1.01	1728063.76	14548584.74	40°03'34.503"N	104°41'12.334"W	0.86	
293.00	0.350	128.810	293.00	0.41	-0.41	1.16	1728063.91	14548584.68	40°03'34.502"N	104°41'12.332"W	0.67	
324.00	0.130	98.050	324.00	0.47	-0.47	1.27	1728064.02	14548584.62	40°03'34.501"N	104°41'12.331"W	0.80	
356.00	0.260	150.870	356.00	0.54	-0.54	1.34	1728064.09	14548584.55	40°03'34.501"N	104°41'12.330"W	0.65	
388.00	0.260	143.670	388.00	0.66	-0.66	1.42	1728064.17	14548584.43	40°03'34.499"N	104°41'12.329"W	0.10	
420.00	0.220	162.740	420.00	0.78	-0.78	1.48	1728064.23	14548584.31	40°03'34.498"N	104°41'12.328"W	0.28	
451.00	0.400	175.310	451.00	0.94	-0.95	1.51	1728064.26	14548584.14	40°03'34.497"N	104°41'12.328"W	0.62	
483.00	0.350	185.850	482.99	1.15	-1.15	1.51	1728064.26	14548583.94	40°03'34.495"N	104°41'12.328"W	0.27	
514.00	0.350	222.060	513.99	1.32	-1.32	1.43	1728064.19	14548583.77	40°03'34.493"N	104°41'12.329"W	0.70	
546.00	0.660	269.440	545.99	1.39	-1.39	1.18	1728063.94	14548583.70	40°03'34.492"N	104°41'12.332"W	1.55	
577.00	1.190	298.620	576.99	1.24	-1.24	0.72	1728063.48	14548583.85	40°03'34.494"N	104°41'12.338"W	2.24	
609.00	1.630	306.090	608.98	0.81	-0.81	0.06	1728062.82	14548584.27	40°03'34.498"N	104°41'12.346"W	1.49	
641.00	2.420	311.450	640.96	0.10	-0.10	-0.81	1728061.94	14548584.98	40°03'34.505"N	104°41'12.357"W	2.54	
673.00	2.640	314.260	672.93	-0.86	0.86	-1.85	1728060.90	14548585.94	40°03'34.515"N	104°41'12.371"W	0.79	
705.00	3.250	311.450	704.89	-1.97	1.98	-3.05	1728059.69	14548587.05	40°03'34.526"N	104°41'12.386"W	1.96	
736.00	3.690	309.690	735.83	-3.19	3.20	-4.48	1728058.26	14548588.26	40°03'34.538"N	104°41'12.405"W	1.46	
768.00	4.090	312.240	767.75	-4.61	4.62	-6.12	1728056.62	14548589.68	40°03'34.552"N	104°41'12.426"W	1.36	
800.00	4.880	313.380	799.66	-6.30	6.32	-7.95	1728054.78	14548591.38	40°03'34.568"N	104°41'12.449"W	2.48	
831.00	5.630	313.650	830.53	-8.25	8.28	-10.01	1728052.72	14548593.33	40°03'34.588"N	104°41'12.476"W	2.42	
863.00	6.240	313.910	862.35	-10.54	10.57	-12.40	1728050.32	14548595.61	40°03'34.610"N	104°41'12.506"W	1.91	
895.00	6.900	314.090	894.14	-13.08	13.11	-15.03	1728047.68	14548598.14	40°03'34.636"N	104°41'12.540"W	2.06	
927.00	7.780	312.150	925.88	-15.86	15.90	-18.02	1728044.68	14548600.92	40°03'34.663"N	104°41'12.579"W	2.86	
958.00	7.950	310.830	956.59	-18.66	18.71	-21.20	1728041.50	14548603.72	40°03'34.691"N	104°41'12.620"W	0.80	
989.00	9.230	310.040	987.24	-21.65	21.71	-24.72	1728037.96	14548606.70	40°03'34.721"N	104°41'12.665"W	4.15	
1021.00	10.020	310.390	1018.79	-25.10	25.17	-28.81	1728033.87	14548610.14	40°03'34.755"N	104°41'12.717"W	2.48	
1053.00	10.630	311.100	1050.27	-28.83	28.91	-33.15	1728029.51	14548613.87	40°03'34.792"N	104°41'12.773"W	1.95	
1085.00	11.120	312.060	1081.70	-32.83	32.92	-37.67	1728024.98	14548617.86	40°03'34.831"N	104°41'12.831"W	1.63	
1116.00	11.510	312.940	1112.09	-36.93	37.03	-42.15	1728020.49	14548621.95	40°03'34.872"N	104°41'12.889"W	1.38	
1148.00	11.820	311.450	1143.43	-41.26	41.37	-46.94	1728015.68	14548626.28	40°03'34.915"N	104°41'12.951"W	1.35	
1180.00	12.220	309.950	1174.73	-45.59	45.72	-52.00	1728010.61	14548630.60	40°03'34.958"N	104°41'13.016"W	1.59	
1212.00	12.520	309.430	1205.99	-49.96	50.10	-57.27	1728005.33	14548634.96	40°03'35.001"N	104°41'13.084"W	1.00	
1243.00	13.230	309.870	1236.21	-54.35	54.50	-62.59	1727999.99	14548639.35	40°03'35.045"N	104°41'13.152"W	2.31	
1275.00	13.710	311.360	1267.33	-59.19	59.36	-68.25	1727994.32	14548644.18	40°03'35.093"N	104°41'13.225"W	1.85	
1306.00	14.330	312.500	1297.41	-64.20	64.38	-73.83	1727988.72	14548649.18	40°03'35.142"N	104°41'13.297"W	2.19	
1338.00	14.770	313.380	1328.38	-69.66	69.85	-79.72	1727982.82	14548654.63	40°03'35.196"N	104°41'13.372"W	1.54	
1370.00	15.560	314.610	1359.27	-75.46	75.67	-85.74	1727976.78	14548660.42	40°03'35.254"N	104°41'13.450"W	2.67	
1401.00	16.260	314.520	1389.08	-81.41	81.63	-91.79	1727970.71	14548666.36	40°03'35.313"N	104°41'13.528"W	2.26	
1432.00	16.700	313.910	1418.80	-87.53	87.77	-98.10	1727964.39	14548672.47	40°03'35.373"N	104°41'13.609"W	1.53	
1464.00	17.140	312.850	1449.42	-93.91	94.16	-104.86	1727957.60	14548678.84	40°03'35.437"N	104°41'13.696"W	1.68	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 ENGLISH FARMS 8-11HZ (303'FSL & 2316'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-11HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-11HZ AWB
Facility	SEC.08-T1N-R65W		

## WELLPATH DATA (263 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
1496.00	17.710	312.420	1479.95	-100.38	100.65	-111.91	1727950.53	14548685.30	40°03'35.501"N	104°41'13.786"W	1.83	
1527.00	18.020	312.060	1509.46	-106.75	107.04	-118.96	1727943.47	14548691.67	40°03'35.564"N	104°41'13.877"W	1.06	
1559.00	18.240	311.620	1539.87	-113.38	113.69	-126.37	1727936.03	14548698.28	40°03'35.629"N	104°41'13.972"W	0.81	
1591.00	18.240	311.540	1570.26	-120.01	120.33	-133.87	1727928.51	14548704.90	40°03'35.695"N	104°41'14.069"W	0.08	
1622.00	18.590	311.270	1599.67	-126.47	126.81	-141.21	1727921.15	14548711.35	40°03'35.759"N	104°41'14.163"W	1.16	
1654.00	18.940	311.180	1629.97	-133.23	133.59	-148.95	1727913.39	14548718.10	40°03'35.826"N	104°41'14.263"W	1.10	
1686.00	17.970	311.980	1660.32	-139.93	140.31	-156.53	1727905.79	14548724.79	40°03'35.893"N	104°41'14.360"W	3.13	
1718.00	17.930	311.890	1690.77	-146.51	146.91	-163.87	1727898.43	14548731.35	40°03'35.958"N	104°41'14.454"W	0.15	
1749.00	18.060	311.980	1720.25	-152.89	153.31	-170.99	1727891.29	14548737.73	40°03'36.021"N	104°41'14.546"W	0.43	
1781.00	18.410	311.980	1750.64	-159.57	160.00	-178.44	1727883.82	14548744.40	40°03'36.087"N	104°41'14.642"W	1.09	
1813.00	18.410	312.240	1781.01	-166.33	166.78	-185.93	1727876.30	14548751.14	40°03'36.154"N	104°41'14.738"W	0.26	
1844.00	17.840	312.420	1810.47	-172.80	173.27	-193.06	1727869.16	14548757.61	40°03'36.218"N	104°41'14.830"W	1.85	LAST SURFACE MWD+IFR1 SURVEY
1971.00	17.170	310.390	1931.59	-198.01	198.54	-221.70	1727840.44	14548782.77	40°03'36.468"N	104°41'15.198"W	0.71	FIRST BHGE MWD+IFR1+MSA SURVEY
2061.00	16.240	321.710	2017.81	-216.45	217.04	-239.62	1727822.46	14548801.19	40°03'36.651"N	104°41'15.429"W	3.75	
2150.00	13.860	333.160	2103.77	-235.71	236.32	-252.15	1727809.87	14548820.42	40°03'36.841"N	104°41'15.590"W	4.27	
2240.00	12.010	337.900	2191.49	-253.99	254.62	-260.54	1727801.42	14548838.68	40°03'37.022"N	104°41'15.698"W	2.37	
2329.00	10.370	335.520	2278.79	-269.84	270.49	-267.35	1727794.56	14548854.52	40°03'37.179"N	104°41'15.785"W	1.91	
2419.00	8.070	334.810	2367.62	-282.91	283.58	-273.39	1727788.47	14548867.59	40°03'37.308"N	104°41'15.863"W	2.56	
2509.00	7.000	342.400	2456.85	-293.85	294.52	-277.74	1727784.09	14548878.51	40°03'37.417"N	104°41'15.919"W	1.62	
2598.00	7.510	351.410	2545.14	-304.76	305.44	-280.25	1727781.54	14548889.42	40°03'37.524"N	104°41'15.951"W	1.40	
2688.00	6.770	352.850	2634.44	-315.84	316.52	-281.79	1727779.96	14548900.49	40°03'37.634"N	104°41'15.971"W	0.85	
2777.00	6.630	2.300	2722.83	-326.18	326.86	-282.23	1727779.48	14548910.82	40°03'37.736"N	104°41'15.977"W	1.25	
2867.00	6.710	3.040	2812.22	-336.62	337.30	-281.75	1727779.93	14548921.26	40°03'37.839"N	104°41'15.971"W	0.13	
2956.00	5.090	347.080	2900.76	-345.66	346.35	-282.35	1727779.29	14548930.30	40°03'37.929"N	104°41'15.978"W	2.57	
3046.00	4.010	329.280	2990.47	-352.25	352.94	-284.86	1727776.77	14548936.88	40°03'37.994"N	104°41'16.011"W	1.96	
3135.00	3.470	307.220	3079.29	-356.55	357.25	-288.59	1727773.02	14548941.17	40°03'38.036"N	104°41'16.059"W	1.71	
3225.00	3.620	275.080	3169.13	-358.43	359.15	-293.59	1727768.02	14548943.06	40°03'38.055"N	104°41'16.123"W	2.19	
3315.00	1.700	237.950	3259.03	-357.97	358.69	-297.55	1727764.06	14548942.58	40°03'38.051"N	104°41'16.174"W	2.76	
3404.00	0.110	35.670	3348.02	-357.33	358.06	-298.62	1727762.99	14548941.95	40°03'38.044"N	104°41'16.188"W	2.03	
3494.00	0.040	329.140	3438.02	-357.43	358.16	-298.59	1727763.02	14548942.05	40°03'38.045"N	104°41'16.187"W	0.11	
3584.00	0.030	151.610	3528.02	-357.44	358.16	-298.59	1727763.02	14548942.05	40°03'38.045"N	104°41'16.187"W	0.08	
3673.00	0.140	63.150	3617.02	-357.47	358.19	-298.48	1727763.13	14548942.08	40°03'38.046"N	104°41'16.186"W	0.16	
3762.00	0.000	7.850	3706.02	-357.51	358.24	-298.39	1727763.22	14548942.13	40°03'38.046"N	104°41'16.185"W	0.16	
3852.00	0.040	353.440	3796.02	-357.55	358.27	-298.39	1727763.22	14548942.16	40°03'38.046"N	104°41'16.185"W	0.04	
3941.00	0.100	311.610	3885.02	-357.63	358.35	-298.45	1727763.16	14548942.25	40°03'38.047"N	104°41'16.185"W	0.08	
4031.00	0.030	341.180	3975.02	-357.70	358.43	-298.52	1727763.09	14548942.32	40°03'38.048"N	104°41'16.186"W	0.08	
4121.00	0.290	215.090	4065.02	-357.54	358.26	-298.66	1727762.95	14548942.15	40°03'38.046"N	104°41'16.188"W	0.34	
4210.00	0.070	324.700	4154.02	-357.40	358.12	-298.82	1727762.79	14548942.01	40°03'38.045"N	104°41'16.190"W	0.36	
4300.00	0.090	244.290	4244.02	-357.41	358.14	-298.91	1727762.70	14548942.03	40°03'38.045"N	104°41'16.191"W	0.12	
4389.00	0.120	175.220	4333.02	-357.29	358.01	-298.97	1727762.64	14548941.90	40°03'38.044"N	104°41'16.192"W	0.14	
4478.00	0.150	49.730	4422.02	-357.27	358.00	-298.87	1727762.74	14548941.89	40°03'38.044"N	104°41'16.191"W	0.27	
4568.00	0.040	251.120	4512.02	-357.34	358.06	-298.81	1727762.80	14548941.95	40°03'38.044"N	104°41'16.190"W	0.21	
4657.00	0.110	225.370	4601.02	-357.27	357.99	-298.90	1727762.71	14548941.88	40°03'38.044"N	104°41'16.191"W	0.09	
4747.00	0.090	328.720	4691.02	-357.27	357.99	-299.00	1727762.61	14548941.88	40°03'38.044"N	104°41'16.192"W	0.17	
4837.00	0.070	315.400	4781.02	-357.37	358.09	-299.07	1727762.54	14548941.98	40°03'38.045"N	104°41'16.193"W	0.03	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 ENGLISH FARMS 8-11HZ (303'FSL & 2316'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-11HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-11HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (263 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
4926.00	0.060	269.580	4870.02	-357.40	358.13	-299.16	1727762.45	14548942.02	40°03'38.045"N	104°41'16.194"W	0.06	
5016.00	0.130	6.270	4960.02	-357.51	358.23	-299.20	1727762.41	14548942.12	40°03'38.046"N	104°41'16.195"W	0.17	
5105.00	0.070	214.110	5049.02	-357.56	358.29	-299.22	1727762.40	14548942.18	40°03'38.047"N	104°41'16.195"W	0.22	
5195.00	0.090	56.360	5139.02	-357.55	358.28	-299.19	1727762.42	14548942.17	40°03'38.047"N	104°41'16.195"W	0.17	
5285.00	0.120	157.670	5229.02	-357.51	358.23	-299.09	1727762.52	14548942.12	40°03'38.046"N	104°41'16.194"W	0.18	
5374.00	0.140	60.370	5318.02	-357.47	358.20	-298.96	1727762.65	14548942.09	40°03'38.046"N	104°41'16.192"W	0.22	
5464.00	0.040	329.330	5408.02	-357.56	358.28	-298.88	1727762.73	14548942.17	40°03'38.047"N	104°41'16.191"W	0.16	
5553.00	0.090	168.970	5497.02	-357.51	358.24	-298.89	1727762.72	14548942.13	40°03'38.046"N	104°41'16.191"W	0.14	
5643.00	0.110	49.350	5587.02	-357.50	358.23	-298.81	1727762.80	14548942.12	40°03'38.046"N	104°41'16.190"W	0.19	
5732.00	0.090	39.520	5676.02	-357.61	358.34	-298.70	1727762.91	14548942.23	40°03'38.047"N	104°41'16.189"W	0.03	
5821.00	0.070	191.660	5765.02	-357.61	358.34	-298.66	1727762.95	14548942.23	40°03'38.047"N	104°41'16.188"W	0.17	
5911.00	0.090	94.140	5855.02	-357.55	358.28	-298.60	1727763.01	14548942.17	40°03'38.047"N	104°41'16.187"W	0.13	
6000.00	0.160	153.240	5944.02	-357.44	358.16	-298.48	1727763.13	14548942.05	40°03'38.045"N	104°41'16.186"W	0.15	
6090.00	0.140	119.690	6034.01	-357.27	358.00	-298.33	1727763.28	14548941.89	40°03'38.044"N	104°41'16.184"W	0.10	
6179.00	0.090	323.340	6123.01	-357.27	358.00	-298.27	1727763.34	14548941.89	40°03'38.044"N	104°41'16.183"W	0.25	
6269.00	0.110	55.020	6213.01	-357.38	358.10	-298.25	1727763.37	14548942.00	40°03'38.045"N	104°41'16.183"W	0.16	
6359.00	0.090	45.770	6303.01	-357.48	358.20	-298.12	1727763.49	14548942.10	40°03'38.046"N	104°41'16.181"W	0.03	
6448.00	0.090	73.240	6392.01	-357.55	358.27	-298.01	1727763.60	14548942.17	40°03'38.047"N	104°41'16.180"W	0.05	
6457.00†	0.982	155.083	6401.01	-357.48	358.20	-297.97	1727763.64	14548942.10	40°03'38.046"N	104°41'16.179"W	10.82	KOP
6538.00	9.740	159.810	6481.58	-350.41	351.13	-295.30	1727766.33	14548935.04	40°03'37.976"N	104°41'16.145"W	10.82	
6627.00	15.770	172.760	6568.36	-331.34	332.05	-291.18	1727770.52	14548915.97	40°03'37.787"N	104°41'16.092"W	7.46	
6717.00	22.460	177.700	6653.36	-302.00	302.70	-288.94	1727772.86	14548886.65	40°03'37.497"N	104°41'16.063"W	7.64	
6806.00	29.020	181.260	6733.49	-263.38	264.09	-288.74	1727773.20	14548848.05	40°03'37.116"N	104°41'16.060"W	7.57	
6896.00	36.350	181.160	6809.18	-214.82	215.53	-289.76	1727772.35	14548799.51	40°03'36.636"N	104°41'16.074"W	8.14	
6985.00	43.020	181.280	6877.64	-158.03	158.74	-290.97	1727771.34	14548742.74	40°03'36.075"N	104°41'16.089"W	7.49	
7075.00	50.430	182.160	6939.29	-92.58	93.29	-292.97	1727769.57	14548677.31	40°03'35.428"N	104°41'16.115"W	8.26	
7164.00	55.370	182.040	6992.96	-21.66	22.38	-295.56	1727767.23	14548606.41	40°03'34.727"N	104°41'16.148"W	5.55	
7254.00	63.960	178.680	7038.38	55.93	-55.21	-295.95	1727767.11	14548528.85	40°03'33.960"N	104°41'16.153"W	10.07	
7343.00	73.200	176.630	7070.85	138.61	-137.90	-292.52	1727770.83	14548446.21	40°03'33.143"N	104°41'16.109"W	10.60	
7433.00	73.910	176.080	7096.33	224.74	-224.04	-287.03	1727776.62	14548360.12	40°03'32.292"N	104°41'16.038"W	0.98	
7522.00	78.500	176.440	7117.55	310.95	-310.27	-281.40	1727782.56	14548273.95	40°03'31.440"N	104°41'15.966"W	5.17	
7612.00	85.990	177.060	7129.68	399.91	-399.24	-276.35	1727787.92	14548185.04	40°03'30.561"N	104°41'15.901"W	8.35	
7701.00	91.080	177.780	7131.96	488.75	-488.09	-272.35	1727792.23	14548096.23	40°03'29.683"N	104°41'15.850"W	5.78	LANDING (185'FNL & 2588'FEL, SEC.17) 40.0582452 -104.6877360
7791.00	91.110	178.890	7130.24	578.68	-578.03	-269.73	1727795.16	14548006.34	40°03'28.794"N	104°41'15.816"W	1.23	
7880.00	90.830	180.230	7128.73	667.66	-667.01	-269.05	1727796.16	14547917.39	40°03'27.914"N	104°41'15.807"W	1.54	
7970.00	91.510	180.060	7126.89	757.64	-756.99	-269.28	1727796.24	14547827.45	40°03'27.025"N	104°41'15.810"W	0.78	
7975.00†	91.486	180.100	7126.76	762.64	-761.99	-269.28	1727796.25	14547822.45	40°03'26.976"N	104°41'15.810"W	0.93	EXIT RADIUS HEEL (459'FNL & 2587'FEL, SEC.17) 40.0574933 -104.6877250
8059.00	91.080	180.770	7124.88	846.62	-845.97	-269.92	1727795.91	14547738.50	40°03'26.146"N	104°41'15.818"W	0.93	
8149.00	89.940	182.210	7124.08	936.59	-935.93	-272.26	1727793.89	14547648.57	40°03'25.257"N	104°41'15.848"W	2.04	
8238.00	90.060	183.340	7124.08	1025.49	-1024.82	-276.57	1727789.90	14547559.70	40°03'24.378"N	104°41'15.904"W	1.28	
8328.00	90.180	184.630	7123.89	1115.29	-1114.60	-282.82	1727783.96	14547469.93	40°03'23.491"N	104°41'15.984"W	1.44	
8417.00	89.780	183.580	7123.92	1204.07	-1203.37	-289.20	1727777.90	14547381.17	40°03'22.614"N	104°41'16.066"W	1.26	
8507.00	89.820	182.830	7124.24	1293.94	-1293.23	-294.23	1727773.19	14547291.33	40°03'21.726"N	104°41'16.131"W	0.83	
8597.00	89.780	179.820	7124.55	1383.91	-1383.20	-296.31	1727771.43	14547201.40	40°03'20.837"N	104°41'16.158"W	3.34	
8686.00	89.660	179.340	7124.99	1472.91	-1472.19	-295.66	1727772.39	14547112.44	40°03'19.957"N	104°41'16.149"W	0.56	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 ENGLISH FARMS 8-11HZ (303°FSL & 2316°FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-11HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-11HZ AWB
Facility	SEC.08-T1N-R65W		

### WELLPATH DATA (263 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
8776.00	89.750	180.610	7125.45	1562.90	-1562.19	-295.62	1727772.75	14547022.48	40°03'19.068"N	104°41'16.149"W	1.41	
8865.00	89.630	184.240	7125.93	1651.82	-1651.10	-299.38	1727769.30	14546933.60	40°03'18.189"N	104°41'16.197"W	4.08	
8955.00	89.850	186.110	7126.34	1741.46	-1740.72	-307.50	1727761.50	14546843.97	40°03'17.304"N	104°41'16.301"W	2.09	
9045.00	89.780	186.940	7126.63	1830.90	-1830.14	-317.73	1727751.59	14546754.56	40°03'16.420"N	104°41'16.433"W	0.93	
9134.00	89.690	183.430	7127.04	1919.54	-1918.76	-325.77	1727743.86	14546665.94	40°03'15.544"N	104°41'16.536"W	3.95	
9224.00	90.090	179.820	7127.21	2009.50	-2008.71	-328.32	1727741.63	14546576.02	40°03'14.655"N	104°41'16.569"W	4.04	
9313.00	89.910	177.980	7127.21	2098.47	-2097.69	-326.61	1727743.65	14546487.08	40°03'13.776"N	104°41'16.547"W	2.08	
9403.00	89.850	177.720	7127.40	2188.40	-2187.62	-323.23	1727747.34	14546397.20	40°03'12.887"N	104°41'16.504"W	0.30	
9492.00	89.940	176.670	7127.57	2277.28	-2276.52	-318.88	1727752.01	14546308.36	40°03'12.009"N	104°41'16.448"W	1.18	
9581.00	90.060	177.160	7127.57	2366.14	-2365.39	-314.09	1727757.11	14546219.54	40°03'11.131"N	104°41'16.386"W	0.57	
9671.00	90.000	175.450	7127.52	2455.94	-2455.20	-308.29	1727763.22	14546129.78	40°03'10.243"N	104°41'16.311"W	1.90	
9760.00	90.000	175.580	7127.52	2544.65	-2543.92	-301.33	1727770.49	14546041.12	40°03'09.366"N	104°41'16.222"W	0.15	
9849.00	89.750	176.230	7127.71	2633.40	-2632.70	-294.97	1727777.15	14545952.40	40°03'08.489"N	104°41'16.140"W	0.78	
9939.00	90.030	177.250	7127.89	2723.24	-2722.55	-289.86	1727782.59	14545862.60	40°03'07.601"N	104°41'16.074"W	1.18	
10028.00	89.850	179.910	7127.98	2812.20	-2811.51	-287.65	1727785.10	14545773.68	40°03'06.722"N	104°41'16.046"W	3.00	
10118.00	90.030	180.030	7128.07	2902.20	-2901.51	-287.60	1727785.47	14545683.72	40°03'05.833"N	104°41'16.045"W	0.24	
10208.00	89.780	177.970	7128.22	2992.18	-2991.50	-286.03	1727787.35	14545593.78	40°03'04.943"N	104°41'16.025"W	2.31	
10297.00	90.030	178.730	7128.37	3081.14	-3080.46	-283.47	1727790.23	14545504.86	40°03'04.064"N	104°41'15.992"W	0.90	
10387.00	89.880	179.520	7128.44	3171.12	-3170.45	-282.10	1727791.92	14545414.91	40°03'03.175"N	104°41'15.975"W	0.89	
10477.00	90.000	178.650	7128.53	3261.11	-3260.43	-280.66	1727793.67	14545324.97	40°03'02.286"N	104°41'15.956"W	0.98	
10566.00	90.000	179.960	7128.53	3350.09	-3349.43	-279.58	1727795.06	14545236.01	40°03'01.406"N	104°41'15.942"W	1.47	
10656.00	89.880	180.800	7128.63	3440.09	-3439.42	-280.18	1727794.78	14545146.05	40°03'00.517"N	104°41'15.950"W	0.94	
10746.00	90.090	181.620	7128.65	3530.08	-3529.40	-282.08	1727793.20	14545056.10	40°02'59.628"N	104°41'15.974"W	0.94	
10835.00	89.910	182.280	7128.65	3619.03	-3618.35	-285.11	1727790.49	14544967.18	40°02'58.749"N	104°41'16.013"W	0.77	
10924.00	89.780	181.990	7128.89	3707.98	-3707.29	-288.42	1727787.48	14544878.26	40°02'57.870"N	104°41'16.056"W	0.36	
11014.00	89.420	181.850	7129.52	3797.93	-3797.23	-291.44	1727784.79	14544788.34	40°02'56.981"N	104°41'16.095"W	0.43	
11104.00	89.380	181.690	7130.46	3887.89	-3887.19	-294.22	1727782.32	14544698.42	40°02'56.092"N	104°41'16.130"W	0.18	
11193.00	89.450	181.400	7131.37	3976.86	-3976.15	-296.62	1727780.24	14544609.48	40°02'55.213"N	104°41'16.161"W	0.34	
11282.00	89.420	181.900	7132.25	4065.82	-4065.11	-299.18	1727777.99	14544520.55	40°02'54.334"N	104°41'16.194"W	0.56	
11372.00	89.350	182.570	7133.22	4155.76	-4155.03	-302.69	1727774.80	14544430.65	40°02'53.445"N	104°41'16.239"W	0.75	
11462.00	89.540	183.150	7134.09	4245.65	-4244.92	-307.18	1727770.63	14544340.78	40°02'52.557"N	104°41'16.297"W	0.68	
11551.00	89.480	182.990	7134.85	4334.53	-4333.79	-311.94	1727766.17	14544251.93	40°02'51.679"N	104°41'16.358"W	0.19	
11641.00	89.420	181.710	7135.71	4424.46	-4423.70	-315.63	1727762.80	14544162.04	40°02'50.790"N	104°41'16.406"W	1.42	
11730.00	89.510	181.080	7136.54	4513.43	-4512.67	-317.80	1727760.95	14544073.10	40°02'49.911"N	104°41'16.433"W	0.72	
11820.00	89.540	180.830	7137.29	4603.42	-4602.66	-319.30	1727759.77	14543983.14	40°02'49.021"N	104°41'16.453"W	0.28	
11910.00	89.480	180.340	7138.06	4693.41	-4692.65	-320.22	1727759.16	14543893.18	40°02'48.132"N	104°41'16.464"W	0.55	
11999.00	89.320	178.590	7138.99	4782.40	-4781.64	-319.39	1727760.31	14543804.23	40°02'47.253"N	104°41'16.454"W	1.97	
12089.00	89.630	177.990	7139.82	4872.35	-4871.59	-316.70	1727763.31	14543714.32	40°02'46.364"N	104°41'16.419"W	0.75	
12179.00	89.690	178.200	7140.35	4962.29	-4961.54	-313.71	1727766.61	14543624.42	40°02'45.475"N	104°41'16.381"W	0.24	
12268.00	89.660	177.160	7140.86	5051.20	-5050.47	-310.11	1727770.53	14543535.54	40°02'44.596"N	104°41'16.334"W	1.17	
12357.00	89.660	177.410	7141.38	5140.09	-5139.36	-305.89	1727775.06	14543446.70	40°02'43.718"N	104°41'16.280"W	0.28	
12447.00	89.570	178.810	7141.99	5230.03	-5229.31	-302.93	1727778.34	14543356.80	40°02'42.829"N	104°41'16.242"W	1.56	
12536.00	89.660	180.030	7142.59	5319.02	-5318.30	-302.02	1727779.55	14543267.84	40°02'41.949"N	104°41'16.230"W	1.37	
12626.00	89.750	180.390	7143.05	5409.02	-5408.30	-302.35	1727779.54	14543177.88	40°02'41.060"N	104°41'16.235"W	0.41	
12715.00	89.630	180.480	7143.53	5498.02	-5497.30	-303.03	1727779.18	14543088.92	40°02'40.180"N	104°41'16.243"W	0.17	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 ENGLISH FARMS 8-11HZ (303'FSL & 2316'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-11HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-11HZ AWB
Facility	SEC.08-T1N-R65W		

## WELLPATH DATA (263 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
12804.00	89.510	180.580	7144.20	5587.01	-5586.29	-303.85	1727778.67	14542999.96	40°02'39.301"N	104°41'16.254"W	0.18	
12894.00	89.630	180.660	7144.88	5677.01	-5676.28	-304.83	1727778.01	14542910.00	40°02'38.412"N	104°41'16.266"W	0.16	
12983.00	89.540	180.770	7145.52	5766.00	-5765.27	-305.94	1727777.21	14542821.04	40°02'37.532"N	104°41'16.281"W	0.16	
13073.00	89.660	180.620	7146.15	5855.99	-5855.26	-307.03	1727776.44	14542731.08	40°02'36.643"N	104°41'16.295"W	0.21	
13163.00	89.540	180.660	7146.78	5945.99	-5945.26	-308.03	1727775.75	14542641.12	40°02'35.754"N	104°41'16.308"W	0.14	
13252.00	89.170	180.700	7147.78	6034.98	-6034.24	-309.09	1727775.01	14542552.16	40°02'34.874"N	104°41'16.321"W	0.42	
13342.00	89.170	180.210	7149.08	6124.97	-6124.23	-309.81	1727774.61	14542462.21	40°02'33.985"N	104°41'16.330"W	0.54	
13431.00	88.980	179.070	7150.52	6213.95	-6213.22	-309.25	1727775.48	14542373.26	40°02'33.106"N	104°41'16.323"W	1.30	
13521.00	89.050	178.850	7152.07	6303.92	-6303.19	-307.61	1727777.43	14542283.33	40°02'32.216"N	104°41'16.302"W	0.26	
13610.00	89.600	178.600	7153.11	6392.88	-6392.16	-305.63	1727779.72	14542194.40	40°02'31.337"N	104°41'16.277"W	0.68	
13700.00	89.820	178.560	7153.57	6482.85	-6482.13	-303.40	1727782.27	14542104.47	40°02'30.448"N	104°41'16.248"W	0.25	
13789.00	89.660	178.890	7153.97	6571.82	-6571.11	-301.42	1727784.56	14542015.54	40°02'29.569"N	104°41'16.222"W	0.41	
13969.00	89.880	180.530	7154.70	6751.81	-6751.10	-300.51	1727786.10	14541835.63	40°02'27.790"N	104°41'16.211"W	0.92	
14058.00	89.750	178.610	7154.98	6840.80	-6840.09	-299.84	1727787.08	14541746.67	40°02'26.911"N	104°41'16.202"W	2.16	
14148.00	90.000	180.810	7155.18	6930.79	-6930.08	-299.39	1727787.86	14541656.71	40°02'26.021"N	104°41'16.196"W	2.46	
14237.00	90.090	181.280	7155.11	7019.78	-7019.07	-301.01	1727786.55	14541567.76	40°02'25.142"N	104°41'16.217"W	0.54	
14327.00	89.880	181.600	7155.13	7109.76	-7109.04	-303.27	1727784.60	14541477.82	40°02'24.253"N	104°41'16.246"W	0.43	
14417.00	90.000	179.950	7155.23	7199.75	-7199.03	-304.49	1727783.70	14541387.86	40°02'23.363"N	104°41'16.262"W	1.84	
14506.00	89.780	180.990	7155.40	7288.74	-7288.03	-305.22	1727783.29	14541298.90	40°02'22.484"N	104°41'16.271"W	1.19	
14596.00	90.000	179.100	7155.57	7378.74	-7378.02	-305.29	1727783.53	14541208.94	40°02'21.595"N	104°41'16.272"W	2.11	
14686.00	89.940	179.660	7155.62	7468.73	-7468.02	-304.32	1727784.82	14541118.98	40°02'20.705"N	104°41'16.260"W	0.63	
14775.00	90.180	179.680	7155.53	7557.73	-7557.01	-303.80	1727785.65	14541030.02	40°02'19.826"N	104°41'16.253"W	0.27	
14865.00	90.000	180.330	7155.38	7647.73	-7647.01	-303.81	1727785.96	14540940.06	40°02'18.936"N	104°41'16.253"W	0.75	
14954.00	88.980	180.580	7156.18	7736.72	-7736.01	-304.52	1727785.56	14540851.10	40°02'18.057"N	104°41'16.262"W	1.18	
15044.00	89.140	180.120	7157.65	7826.71	-7825.99	-305.07	1727785.33	14540761.15	40°02'17.168"N	104°41'16.269"W	0.54	
15134.00	89.110	180.270	7159.03	7916.70	-7915.98	-305.37	1727785.34	14540671.19	40°02'16.278"N	104°41'16.273"W	0.17	
15223.00	89.290	179.990	7160.27	8005.69	-8004.97	-305.58	1727785.45	14540582.24	40°02'15.399"N	104°41'16.276"W	0.37	
15313.00	89.170	180.000	7161.48	8095.68	-8094.96	-305.57	1727785.78	14540492.28	40°02'14.510"N	104°41'16.276"W	0.13	
15402.00	89.260	180.560	7162.70	8184.67	-8183.95	-306.00	1727785.65	14540403.32	40°02'13.630"N	104°41'16.281"W	0.64	
15491.00	89.110	179.150	7163.96	8273.66	-8272.94	-305.78	1727786.19	14540314.37	40°02'12.751"N	104°41'16.278"W	1.59	
15581.00	88.980	179.700	7165.46	8363.64	-8362.92	-304.88	1727787.41	14540224.43	40°02'11.862"N	104°41'16.267"W	0.63	
15670.00	89.200	181.070	7166.88	8452.63	-8451.91	-305.47	1727787.13	14540135.48	40°02'10.982"N	104°41'16.274"W	1.56	
15760.00	88.800	180.540	7168.45	8542.60	-8541.89	-306.74	1727786.18	14540045.53	40°02'10.093"N	104°41'16.290"W	0.74	
15849.00	89.200	181.700	7170.00	8631.58	-8630.85	-308.48	1727784.75	14539956.59	40°02'09.214"N	104°41'16.313"W	1.38	
15939.00	89.050	182.800	7171.38	8721.50	-8720.77	-312.01	1727781.54	14539866.70	40°02'08.325"N	104°41'16.358"W	1.23	
16028.00	89.200	182.150	7172.74	8810.42	-8809.68	-315.85	1727778.01	14539777.81	40°02'07.447"N	104°41'16.408"W	0.75	
16118.00	89.230	182.390	7173.97	8900.35	-8899.60	-319.42	1727774.76	14539687.92	40°02'06.558"N	104°41'16.453"W	0.27	
16207.00	89.450	180.180	7174.99	8989.32	-8988.57	-321.41	1727773.08	14539598.98	40°02'05.679"N	104°41'16.479"W	2.50	
16297.00	89.510	177.140	7175.81	9079.27	-9078.53	-319.31	1727775.50	14539509.06	40°02'04.790"N	104°41'16.452"W	3.38	
16386.00	89.350	175.680	7176.70	9168.08	-9167.35	-313.74	1727781.38	14539420.30	40°02'03.912"N	104°41'16.380"W	1.65	
16475.00	89.380	176.660	7177.68	9256.86	-9256.14	-307.79	1727787.64	14539331.56	40°02'03.035"N	104°41'16.304"W	1.10	
16565.00	89.260	177.380	7178.75	9346.72	-9346.01	-303.11	1727792.63	14539241.74	40°02'02.146"N	104°41'16.244"W	0.81	
16654.00	89.450	177.580	7179.75	9435.62	-9434.92	-299.20	1727796.85	14539152.88	40°02'01.268"N	104°41'16.193"W	0.31	
16744.00	89.480	178.240	7180.59	9525.54	-9524.86	-295.92	1727800.45	14539062.99	40°02'00.379"N	104°41'16.151"W	0.73	
16833.00	89.510	179.240	7181.38	9614.51	-9613.83	-293.96	1727802.72	14538974.06	40°01'59.500"N	104°41'16.126"W	1.12	



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 ENGLISH FARMS 8-11HZ (303'FSL & 2316'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-11HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-11HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (263 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
16923.00	89.480	179.680	182.17	9704.50	-9703.82	-293.11	1727803.88	14538884.11	40°01'58.610"N	104°41'16.115"W	0.49	
17012.00	89.630	180.750	182.86	9793.50	-9792.82	-293.45	1727803.86	14538795.15	40°01'57.731"N	104°41'16.119"W	1.21	
17102.00	90.000	179.510	183.15	9883.50	-9882.81	-293.65	1727803.98	14538705.18	40°01'56.842"N	104°41'16.122"W	1.44	
17191.00	90.060	178.500	183.11	9972.48	-9971.80	-292.11	1727805.83	14538616.24	40°01'55.962"N	104°41'16.102"W	1.14	
17281.00	90.000	178.440	183.06	10062.44	-10061.77	-289.70	1727808.55	14538526.32	40°01'55.073"N	104°41'16.071"W	0.09	
17370.00	89.910	179.670	183.13	10151.42	-10150.75	-288.23	1727810.33	14538437.37	40°01'54.194"N	104°41'16.052"W	1.39	
17460.00	90.060	178.680	183.15	10241.41	-10240.74	-286.94	1727811.94	14538347.42	40°01'53.304"N	104°41'16.036"W	1.11	
17549.00	90.150	179.790	182.99	10330.40	-10329.73	-285.75	1727813.45	14538258.47	40°01'52.425"N	104°41'16.020"W	1.25	
17638.00	90.000	179.660	182.87	10419.39	-10418.73	-285.32	1727814.19	14538169.51	40°01'51.546"N	104°41'16.015"W	0.22	
17728.00	90.030	180.450	182.85	10509.39	-10508.73	-285.41	1727814.42	14538079.55	40°01'50.656"N	104°41'16.016"W	0.88	
17817.00	90.920	182.860	182.11	10598.35	-10597.68	-287.98	1727812.16	14537990.62	40°01'49.777"N	104°41'16.049"W	2.89	
17906.00	90.860	183.510	180.73	10687.21	-10686.54	-292.92	1727807.53	14537901.79	40°01'48.899"N	104°41'16.112"W	0.73	
17996.00	91.020	184.130	179.25	10777.02	-10776.32	-298.92	1727801.85	14537812.01	40°01'48.012"N	104°41'16.190"W	0.71	
18085.00	91.020	183.720	177.67	10865.81	-10865.10	-305.01	1727796.08	14537723.25	40°01'47.134"N	104°41'16.268"W	0.46	
18174.00	90.860	184.390	176.21	10954.59	-10953.86	-311.30	1727790.10	14537634.50	40°01'46.257"N	104°41'16.349"W	0.77	
18264.00	90.950	182.710	174.79	11044.41	-11043.68	-316.87	1727784.84	14537544.70	40°01'45.370"N	104°41'16.420"W	1.87	
18354.00	91.050	181.250	173.22	11134.35	-11133.61	-319.98	1727782.05	14537454.80	40°01'44.481"N	104°41'16.460"W	1.63	
18443.00	91.110	181.800	171.54	11223.31	-11222.56	-322.35	1727780.00	14537365.87	40°01'43.602"N	104°41'16.491"W	0.62	
18533.00	89.970	181.770	170.69	11313.27	-11312.51	-325.16	1727777.51	14537275.95	40°01'42.713"N	104°41'16.527"W	1.27	
18623.00	89.940	181.250	170.76	11403.24	-11402.48	-327.53	1727775.46	14537186.01	40°01'41.824"N	104°41'16.557"W	0.58	
18712.00	89.910	180.730	170.88	11492.23	-11491.47	-329.06	1727774.23	14537097.05	40°01'40.944"N	104°41'16.577"W	0.59	
18802.00	90.060	180.230	170.90	11582.23	-11581.46	-329.82	1727773.80	14537007.09	40°01'40.055"N	104°41'16.587"W	0.58	
18892.00	89.910	179.480	170.92	11672.23	-11671.46	-329.59	1727774.34	14536917.13	40°01'39.166"N	104°41'16.584"W	0.85	
18981.00	90.060	178.610	170.95	11761.21	-11760.45	-328.11	1727776.14	14536828.18	40°01'38.286"N	104°41'16.565"W	0.99	
19000.00†	90.022	178.435	170.93	11780.20	-11779.44	-327.62	1727776.69	14536809.20	40°01'38.099"N	104°41'16.558"W	0.94	ENTER RADIUS TOE (867'FNL & 2650'FEL, SEC.29) 40.0272496 -104.6879329
19071.00	89.880	177.780	170.99	11851.16	-11850.40	-325.27	1727779.29	14536738.27	40°01'37.397"N	104°41'16.528"W	0.94	
19160.00	90.180	178.170	170.95	11940.09	-11939.35	-322.13	1727782.74	14536649.37	40°01'36.518"N	104°41'16.488"W	0.55	
19250.00	90.060	179.830	170.76	12030.07	-12029.33	-320.56	1727784.63	14536559.43	40°01'35.629"N	104°41'16.467"W	1.85	
19339.00	89.970	180.210	170.74	12119.07	-12118.33	-320.59	1727784.91	14536470.47	40°01'34.750"N	104°41'16.468"W	0.44	
19429.00	89.910	180.090	170.83	12209.07	-12208.33	-320.82	1727784.99	14536380.50	40°01'33.860"N	104°41'16.471"W	0.15	
19518.00	90.000	179.490	170.90	12298.07	-12297.33	-320.50	1727785.63	14536291.54	40°01'32.981"N	104°41'16.467"W	0.68	
19608.00	89.940	178.950	170.95	12388.06	-12387.32	-319.27	1727787.17	14536201.59	40°01'32.091"N	104°41'16.451"W	0.60	
19698.00	90.030	178.410	170.97	12478.03	-12477.29	-317.20	1727789.56	14536111.66	40°01'31.202"N	104°41'16.424"W	0.61	
19877.00	89.940	177.710	171.02	12656.91	-12656.19	-311.14	1727796.25	14535932.85	40°01'29.434"N	104°41'16.346"W	0.39	
19967.00	89.940	177.370	171.11	12746.82	-12746.11	-307.28	1727800.43	14535842.99	40°01'28.546"N	104°41'16.297"W	0.38	
20056.00	90.000	176.860	171.16	12835.69	-12834.99	-302.80	1727805.22	14535754.15	40°01'27.667"N	104°41'16.239"W	0.58	
20146.00	89.780	176.950	171.33	12925.55	-12924.86	-297.94	1727810.39	14535664.34	40°01'26.779"N	104°41'16.177"W	0.26	LAST BHGE MWD+IFR1+MSA SURVEY
20232.00	89.780	176.950	171.66	13011.41	-13010.74	-293.36	1727815.27	14535578.51	40°01'25.931"N	104°41'16.118"W	0.00	PTB (2099'FNL & 2614'FEL, SEC.29) 40.0238696 -104.6878105

HOLE & CASING SECTIONS - Ref Wellbore: ENGLISH FARMS 8-11HZ AWB Ref Wellpath: ENGLISH FARMS 8-11HZ 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	1890.00	1864.00	26.00	1854.29	0.00	0.00	182.65	-203.46



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 ENGLISH FARMS 8-11HZ (303'FSL & 2316'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-11HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-11HZ AWB
Facility	SEC.08-T1N-R65W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.17-T1N-R65W	-34.00	218.70	-2539.71	1725523.29	14548794.77	40°03'36.666"N	104°41'45.010"W	polygon
SEC.20-T1N-R65W	-34.00	218.70	-2539.71	1725523.29	14548794.77	40°03'36.666"N	104°41'45.010"W	polygon
ENGLISH FARMS 8-11HZ HEEL REV-1(50'FNL & 2595'FWL,SEC.17)	7113.00	-353.00	-282.71	1727781.40	14548231.24	40°03'31.018"N	104°41'15.983"W	point
ENGLISH FARMS 8-11HZ INT. TARGET@3500"VS	7113.00	-3499.31	-290.36	1727784.81	14545086.15	40°02'59.925"N	104°41'16.081"W	point
ENGLISH FARMS 8-11HZ INT. TARGET@7000"VS	7130.00	-6999.30	-298.86	1727788.63	14541587.53	40°02'25.337"N	104°41'16.189"W	point
ENGLISH FARMS 8-11HZ BHL REV-1(2181'FNL & 2635'FEL,SEC.29)	7171.00	-13092.93	-313.68	1727795.25	14535496.29	40°01'25.118"N	104°41'16.379"W	point
ENGLISH FARMS 8-11HZ INT. TARGET@9700"VS	7171.00	-9699.29	-305.43	1727791.56	14538888.59	40°01'58.655"N	104°41'16.273"W	point
ENGLISH FARMS 8-11HZ LANDBOX	7171.00	0.00	0.00	1728062.75	14548585.08	40°03'34.506"N	104°41'12.347"W	polygon
ENGLISH FARMS 8-11HZ RADIUS 1	7171.00	-302.72	-281.33	1727782.60	14548281.50	40°03'31.514"N	104°41'15.965"W	polygon
ENGLISH FARMS 8-11HZ RADIUS 2	7171.00	-12237.77	-313.22	1727792.70	14536351.10	40°01'33.569"N	104°41'16.373"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: ENGLISH FARMS 8-11HZ AWB			Ref Wellpath: ENGLISH FARMS 8-11HZ AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	1844.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <134 - 1844>	ENGLISH FARMS 8-11HZ AWB
1844.00	20146.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1971 - 20146>	ENGLISH FARMS 8-11HZ AWB
20146.00	20232.00	Blind Drilling (std)	Projection to bit	ENGLISH FARMS 8-11HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#37 ENGLISH FARMS 8-11HZ (303'FSL & 2316'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-11HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-11HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
134.00	0.400	98.500	134.00	FIRST SURFACE MWD+IFR1 SURVEY
1844.00	17.840	312.420	1810.47	LAST SURFACE MWD+IFR1 SURVEY
1971.00	17.170	310.390	1931.59	FIRST BHGE MWD+IFR1+MSA SURVEY
6457.00	0.982	155.083	6401.01	KOP
7701.00	91.080	177.780	7131.96	LANDING (185'FNL & 2588'FEL,SEC.17) 40.0582452 -104.6877360
7975.00	91.486	180.100	7126.76	EXIT RADIUS HEEL (459'FNL & 2587'FEL,SEC.17) 40.0574933 -104.6877250
19000.00	90.022	178.435	7170.93	ENTER RADIUS TOE (867'FNL & 2650'FEL,SEC.29) 40.0272496 -104.6879329
20146.00	89.780	176.950	7171.33	LAST BHGE MWD+IFR1+MSA SURVEY
20232.00	89.780	176.950	7171.66	PTB (2099'FNL & 2614'FEL,SEC.29) 40.0238696 -104.6878105