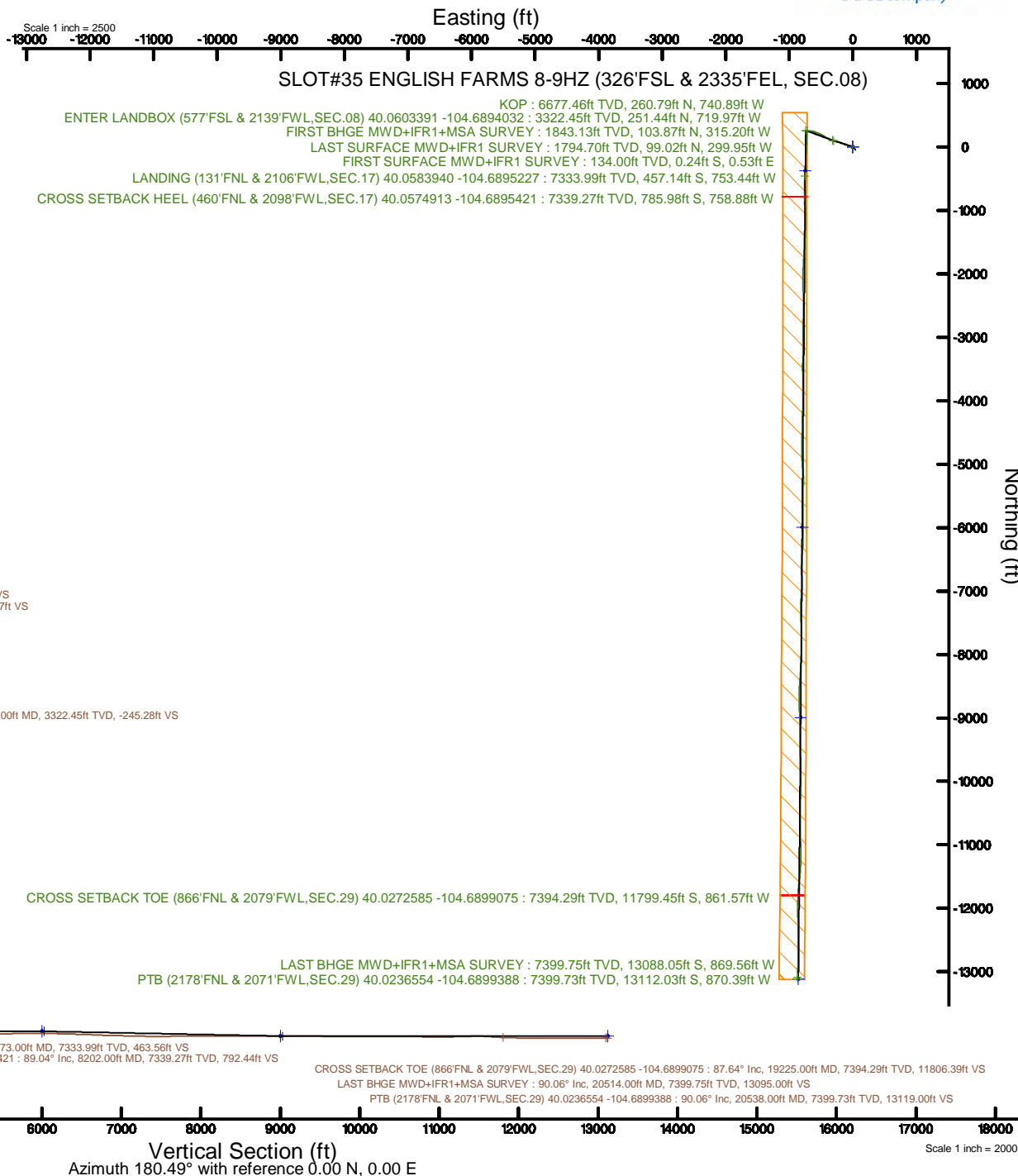


# KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#35 ENGLISH FARMS 8-9HZ (326'FSL & 2335'FEL, SEC.08)  
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: ENGLISH FARMS 8-9HZ  
 Facility: SEC.08-T1N-R65W Wellbore: ENGLISH FARMS 8-9HZ PWB

Plot reference wellpath is ENGLISH FARMS 8-9HZ PWB 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: 4971 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#35 ENGLISH FARMS 8-9HZ (326'FSL & 2335'FEL, SEC.08)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painstr on 2018-07-20
	Database: WA_DEN_Anadarko_Deth



# Actual Wellpath Report

ENGLISH FARMS 8-9HZ AWP

Page 1 of 9

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#35 ENGLISH FARMS 8-9HZ (326'FSL & 2335'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-9HZ AWB
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	7/20/2018 at 7:37 AM
Convergence at slot	0.21° East	Database/Source file	WA_DEN_Anadarko_Defn/ENGLISH_FARMS_8-9HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-4226.12	-1693.83	1728043.63	14548608.28	40°03'34.736"N	104°41'12.592"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#35 ENGLISH FARMS 8-9HZ (326'FSL & 2335'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	180.49°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#35 ENGLISH FARMS 8-9HZ (326'FSL & 2335'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-9HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (269 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	114.130	0.00	0.00	0.00	0.00	1728043.63	14548608.28	40°03'34.736"N	104°41'12.592"W	0.00	
26.00	0.000	114.130	26.00	0.00	0.00	0.00	1728043.63	14548608.28	40°03'34.736"N	104°41'12.592"W	0.00	
134.00	0.620	114.130	134.00	0.23	-0.24	0.53	1728044.16	14548608.05	40°03'34.734"N	104°41'12.585"W	0.57	FIRST SURFACE MWD+IFR1 SURVEY
166.00	0.660	107.370	166.00	0.36	-0.36	0.87	1728044.49	14548607.92	40°03'34.732"N	104°41'12.581"W	0.27	
198.00	0.700	108.250	197.99	0.47	-0.48	1.23	1728044.86	14548607.81	40°03'34.731"N	104°41'12.576"W	0.13	
261.00	0.310	154.920	260.99	0.74	-0.76	1.67	1728045.29	14548607.53	40°03'34.729"N	104°41'12.571"W	0.85	
293.00	0.530	283.940	292.99	0.79	-0.80	1.56	1728045.19	14548607.49	40°03'34.728"N	104°41'12.572"W	2.39	
324.00	1.050	288.420	323.99	0.66	-0.67	1.15	1728044.78	14548607.61	40°03'34.729"N	104°41'12.577"W	1.69	
356.00	1.050	280.340	355.98	0.52	-0.53	0.58	1728044.21	14548607.76	40°03'34.731"N	104°41'12.584"W	0.46	
388.00	1.100	284.550	387.98	0.40	-0.40	0.00	1728043.63	14548607.88	40°03'34.732"N	104°41'12.592"W	0.29	
420.00	1.190	274.800	419.97	0.30	-0.29	-0.63	1728043.00	14548607.99	40°03'34.733"N	104°41'12.600"W	0.67	
451.00	1.540	276.380	450.96	0.23	-0.22	-1.36	1728042.26	14548608.06	40°03'34.734"N	104°41'12.610"W	1.14	
483.00	2.370	286.140	482.94	0.01	0.01	-2.43	1728041.20	14548608.28	40°03'34.736"N	104°41'12.623"W	2.79	
514.00	3.300	288.950	513.90	-0.45	0.48	-3.89	1728039.74	14548608.75	40°03'34.741"N	104°41'12.642"W	3.03	
546.00	4.090	293.430	545.84	-1.18	1.23	-5.81	1728037.82	14548609.49	40°03'34.748"N	104°41'12.667"W	2.63	
577.00	4.700	293.430	576.75	-2.11	2.18	-7.99	1728035.64	14548610.43	40°03'34.758"N	104°41'12.695"W	1.97	
609.00	5.360	293.870	608.62	-3.21	3.30	-10.55	1728033.06	14548611.55	40°03'34.769"N	104°41'12.728"W	2.07	
641.00	5.840	293.260	640.47	-4.44	4.55	-13.42	1728030.20	14548612.78	40°03'34.781"N	104°41'12.765"W	1.51	
673.00	6.550	294.310	672.28	-5.80	5.94	-16.58	1728027.04	14548614.17	40°03'34.795"N	104°41'12.805"W	2.25	
705.00	7.510	293.690	704.04	-7.36	7.54	-20.15	1728023.45	14548615.74	40°03'34.810"N	104°41'12.851"W	3.01	
736.00	8.260	293.690	734.75	-9.04	9.24	-24.05	1728019.55	14548617.44	40°03'34.827"N	104°41'12.901"W	2.42	
768.00	8.390	293.170	766.41	-10.84	11.09	-28.30	1728015.30	14548619.27	40°03'34.846"N	104°41'12.956"W	0.47	
800.00	8.920	290.350	798.05	-12.59	12.87	-32.77	1728010.82	14548621.03	40°03'34.863"N	104°41'13.013"W	2.12	
831.00	9.140	287.280	828.66	-14.11	14.44	-37.38	1728006.21	14548622.58	40°03'34.879"N	104°41'13.073"W	1.71	
863.00	9.230	286.220	860.25	-15.54	15.91	-42.27	1728001.32	14548624.03	40°03'34.893"N	104°41'13.136"W	0.60	
895.00	9.710	286.310	891.82	-16.98	17.38	-47.32	1727996.26	14548625.49	40°03'34.908"N	104°41'13.201"W	1.50	
958.00	11.600	287.100	953.73	-20.24	20.74	-58.48	1727985.10	14548628.80	40°03'34.941"N	104°41'13.344"W	3.01	
989.00	12.570	287.540	984.04	-22.12	22.67	-64.67	1727978.90	14548630.72	40°03'34.960"N	104°41'13.424"W	3.14	
1021.00	12.700	287.980	1015.27	-24.19	24.80	-71.34	1727972.23	14548632.83	40°03'34.981"N	104°41'13.509"W	0.51	
1053.00	13.270	287.890	1046.45	-26.35	27.02	-78.18	1727965.38	14548635.02	40°03'35.003"N	104°41'13.597"W	1.78	
1085.00	13.890	288.330	1077.55	-28.62	29.35	-85.32	1727958.24	14548637.33	40°03'35.026"N	104°41'13.689"W	1.96	
1116.00	14.370	289.390	1107.61	-31.01	31.80	-92.48	1727951.07	14548639.75	40°03'35.050"N	104°41'13.781"W	1.76	
1148.00	15.210	290.000	1138.55	-33.70	34.56	-100.17	1727943.37	14548642.47	40°03'35.077"N	104°41'13.880"W	2.67	
1180.00	15.820	288.950	1169.39	-36.48	37.41	-108.24	1727935.30	14548645.30	40°03'35.106"N	104°41'13.984"W	2.10	
1212.00	16.260	288.250	1200.14	-39.23	40.23	-116.62	1727926.91	14548648.08	40°03'35.134"N	104°41'14.092"W	1.50	
1243.00	16.570	287.890	1229.88	-41.87	42.95	-124.95	1727918.58	14548650.77	40°03'35.160"N	104°41'14.199"W	1.05	
1275.00	17.230	287.720	1260.50	-44.64	45.79	-133.81	1727909.71	14548653.58	40°03'35.188"N	104°41'14.313"W	2.07	
1306.00	17.270	288.860	1290.10	-47.45	48.67	-142.53	1727900.98	14548656.44	40°03'35.217"N	104°41'14.425"W	1.10	
1338.00	17.180	288.600	1320.67	-50.42	51.72	-151.51	1727892.00	14548659.45	40°03'35.247"N	104°41'14.541"W	0.37	
1370.00	17.530	288.860	1351.21	-53.41	54.78	-160.55	1727882.95	14548662.48	40°03'35.277"N	104°41'14.657"W	1.12	
1401.00	17.970	288.070	1380.73	-56.32	57.77	-169.51	1727873.98	14548665.44	40°03'35.307"N	104°41'14.772"W	1.62	
1432.00	17.970	288.070	1410.22	-59.21	60.74	-178.61	1727864.88	14548668.37	40°03'35.336"N	104°41'14.889"W	0.00	
1464.00	17.930	287.720	1440.66	-62.16	63.77	-187.99	1727855.49	14548671.37	40°03'35.366"N	104°41'15.010"W	0.36	
1496.00	18.150	287.720	1471.09	-65.10	66.79	-197.43	1727846.04	14548674.35	40°03'35.396"N	104°41'15.131"W	0.69	
1527.00	17.930	287.280	1500.57	-67.91	69.67	-206.59	1727836.88	14548677.20	40°03'35.425"N	104°41'15.249"W	0.83	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#35 ENGLISH FARMS 8-9HZ (326°FSL & 2335°FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-9HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (269 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
1559.00	18.190	286.400	1530.99	-70.70	72.55	-216.08	1727827.38	14548680.04	40°03'35.453"N	104°41'15.371"W	1.18	
1591.00	18.460	286.660	1561.37	-73.48	75.41	-225.73	1727817.73	14548682.87	40°03'35.481"N	104°41'15.495"W	0.88	
1622.00	18.540	286.310	1590.77	-76.19	78.20	-235.16	1727808.29	14548685.63	40°03'35.509"N	104°41'15.616"W	0.44	
1654.00	18.810	286.310	1621.08	-78.98	81.08	-244.99	1727798.45	14548688.47	40°03'35.537"N	104°41'15.743"W	0.84	
1686.00	18.940	286.580	1651.36	-81.83	84.01	-254.92	1727788.51	14548691.36	40°03'35.566"N	104°41'15.870"W	0.49	
1718.00	18.020	288.330	1681.71	-84.78	87.05	-264.60	1727778.83	14548694.37	40°03'35.596"N	104°41'15.995"W	3.36	
1749.00	18.110	288.680	1711.18	-87.76	90.10	-273.71	1727769.71	14548697.38	40°03'35.626"N	104°41'16.112"W	0.45	
1781.00	18.410	288.860	1741.57	-90.90	93.33	-283.21	1727760.21	14548700.58	40°03'35.658"N	104°41'16.234"W	0.95	
1813.00	18.410	288.950	1771.93	-94.09	96.60	-292.77	1727750.64	14548703.82	40°03'35.691"N	104°41'16.357"W	0.09	
1837.00	18.410	288.330	1794.70	-96.45	99.02	-299.95	1727743.45	14548706.21	40°03'35.715"N	104°41'16.450"W	0.82	LAST SURFACE MWD+IFR1 SURVEY
1888.00	18.180	286.920	1843.13	-101.17	103.87	-315.20	1727728.18	14548711.00	40°03'35.762"N	104°41'16.646"W	0.98	FIRST BHGE MWD+IFR1+MSA SURVEY
1970.00	18.940	289.870	1920.86	-109.21	112.12	-339.96	1727703.41	14548719.16	40°03'35.844"N	104°41'16.964"W	1.47	
2060.00	18.790	292.580	2006.03	-119.50	122.65	-367.08	1727676.26	14548729.59	40°03'35.948"N	104°41'17.313"W	0.99	
2149.00	18.770	297.340	2090.30	-131.36	134.73	-393.03	1727650.27	14548741.58	40°03'36.067"N	104°41'17.647"W	1.72	
2239.00	19.110	300.690	2175.43	-145.31	148.90	-418.57	1727624.70	14548755.65	40°03'36.207"N	104°41'17.975"W	1.27	
2329.00	19.080	302.190	2260.48	-160.45	164.25	-443.68	1727599.54	14548770.91	40°03'36.359"N	104°41'18.298"W	0.55	
2418.00	19.220	302.230	2344.55	-175.80	179.82	-468.39	1727574.79	14548786.38	40°03'36.513"N	104°41'18.616"W	0.16	
2508.00	19.130	295.640	2429.57	-189.87	194.10	-494.22	1727548.92	14548800.57	40°03'36.654"N	104°41'18.948"W	2.41	
2597.00	19.100	295.210	2513.66	-202.15	206.61	-520.54	1727522.57	14548812.98	40°03'36.778"N	104°41'19.287"W	0.16	
2687.00	19.060	290.890	2598.72	-213.43	218.12	-547.59	1727495.49	14548824.39	40°03'36.891"N	104°41'19.635"W	1.57	
2777.00	18.640	290.330	2683.89	-223.44	228.36	-574.81	1727468.25	14548834.53	40°03'36.993"N	104°41'19.985"W	0.51	
2866.00	19.060	291.510	2768.12	-233.48	238.63	-601.66	1727441.36	14548844.70	40°03'37.094"N	104°41'20.330"W	0.64	
2955.00	18.050	286.120	2852.50	-242.41	247.79	-628.43	1727414.57	14548853.76	40°03'37.185"N	104°41'20.674"W	2.24	
3045.00	14.650	271.260	2938.88	-246.32	251.91	-653.22	1727389.78	14548857.80	40°03'37.225"N	104°41'20.993"W	5.96	
3135.00	13.830	267.730	3026.12	-245.95	251.74	-675.35	1727367.66	14548857.54	40°03'37.224"N	104°41'21.278"W	1.33	
3224.00	10.300	267.830	3113.14	-245.07	251.01	-693.94	1727349.08	14548856.76	40°03'37.216"N	104°41'21.517"W	3.97	
3314.00	6.650	266.760	3202.14	-244.36	250.42	-707.19	1727335.84	14548856.11	40°03'37.211"N	104°41'21.687"W	4.06	
3403.00	5.830	278.060	3290.62	-244.62	250.76	-716.81	1727326.22	14548856.42	40°03'37.214"N	104°41'21.811"W	1.66	
3435.00†	5.797	286.477	3322.45	-245.28	251.44	-719.97	1727323.06	14548857.09	40°03'37.221"N	104°41'21.851"W	2.66	ENTER LANDBOX (577°FSL & 2139°FWL, SEC.08) 40.0603391 -104.6894032
3493.00	6.050	301.290	3380.15	-247.65	253.86	-725.39	1727317.64	14548859.49	40°03'37.245"N	104°41'21.921"W	2.66	
3583.00	4.890	305.670	3469.74	-252.29	258.56	-732.56	1727310.45	14548864.17	40°03'37.291"N	104°41'22.013"W	1.37	
3672.00	2.670	293.550	3558.54	-255.29	261.60	-737.54	1727305.46	14548867.19	40°03'37.321"N	104°41'22.077"W	2.64	
3762.00	1.060	255.230	3648.49	-255.89	262.23	-740.27	1727302.73	14548867.80	40°03'37.327"N	104°41'22.113"W	2.17	
3851.00	0.380	171.010	3737.48	-255.38	261.73	-741.02	1727301.99	14548867.30	40°03'37.322"N	104°41'22.122"W	1.22	
3940.00	0.040	324.300	3826.48	-255.11	261.46	-740.99	1727302.02	14548867.03	40°03'37.320"N	104°41'22.122"W	0.47	
4030.00	0.030	87.670	3916.48	-255.14	261.49	-740.98	1727302.02	14548867.06	40°03'37.320"N	104°41'22.122"W	0.07	
4120.00	0.090	44.480	4006.48	-255.19	261.54	-740.91	1727302.09	14548867.11	40°03'37.320"N	104°41'22.121"W	0.08	
4209.00	0.110	220.600	4095.48	-255.18	261.52	-740.92	1727302.09	14548867.10	40°03'37.320"N	104°41'22.121"W	0.22	
4299.00	0.250	206.120	4185.48	-254.94	261.28	-741.06	1727301.95	14548866.85	40°03'37.318"N	104°41'22.123"W	0.16	
4388.00	0.160	260.560	4274.48	-254.74	261.09	-741.27	1727301.74	14548866.66	40°03'37.316"N	104°41'22.125"W	0.23	
4478.00	0.090	5.050	4364.48	-254.79	261.14	-741.38	1727301.62	14548866.71	40°03'37.317"N	104°41'22.127"W	0.22	
4567.00	0.130	180.090	4453.48	-254.76	261.11	-741.38	1727301.63	14548866.68	40°03'37.316"N	104°41'22.127"W	0.25	
4657.00	0.130	146.890	4543.48	-254.57	260.92	-741.32	1727301.68	14548866.49	40°03'37.314"N	104°41'22.126"W	0.08	
4746.00	0.000	7.830	4632.48	-254.48	260.83	-741.27	1727301.74	14548866.41	40°03'37.314"N	104°41'22.125"W	0.15	
4836.00	0.170	60.570	4722.48	-254.55	260.90	-741.15	1727301.85	14548866.47	40°03'37.314"N	104°41'22.124"W	0.19	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#35 ENGLISH FARMS 8-9HZ (326°FSL & 2335°FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-9HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (269 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
4925.00	0.110	104.840	4811.48	-254.60	260.94	-740.95	1727302.05	14548866.51	40°03'37.315"N	104°41'22.121"W	0.13	
5015.00	0.110	358.740	4901.48	-254.66	261.01	-740.87	1727302.13	14548866.58	40°03'37.315"N	104°41'22.120"W	0.20	
5105.00	0.220	326.310	4991.48	-254.89	261.24	-740.97	1727302.03	14548866.81	40°03'37.317"N	104°41'22.122"W	0.16	
5194.00	0.190	10.650	5080.48	-255.18	261.52	-741.04	1727301.97	14548867.10	40°03'37.320"N	104°41'22.122"W	0.18	
5284.00	0.220	24.930	5170.48	-255.48	261.83	-740.94	1727302.06	14548867.40	40°03'37.323"N	104°41'22.121"W	0.07	
5373.00	0.220	42.720	5259.48	-255.76	262.11	-740.75	1727302.25	14548867.68	40°03'37.326"N	104°41'22.119"W	0.08	
5463.00	0.120	318.960	5349.48	-255.96	262.31	-740.69	1727302.31	14548867.88	40°03'37.328"N	104°41'22.118"W	0.27	
5552.00	0.100	131.680	5438.48	-255.98	262.32	-740.70	1727302.30	14548867.90	40°03'37.328"N	104°41'22.118"W	0.25	
5642.00	0.190	113.760	5528.48	-255.87	262.21	-740.50	1727302.50	14548867.79	40°03'37.327"N	104°41'22.116"W	0.11	
5731.00	0.180	66.880	5617.48	-255.87	262.21	-740.24	1727302.76	14548867.78	40°03'37.327"N	104°41'22.112"W	0.17	
5821.00	0.060	76.870	5707.48	-255.94	262.27	-740.06	1727302.94	14548867.85	40°03'37.328"N	104°41'22.110"W	0.13	
5910.00	0.190	87.980	5796.48	-255.95	262.29	-739.87	1727303.13	14548867.87	40°03'37.328"N	104°41'22.107"W	0.15	
6000.00	0.810	185.440	5886.48	-255.33	261.66	-739.78	1727303.22	14548867.24	40°03'37.322"N	104°41'22.106"W	0.95	
6089.00	0.180	354.520	5975.47	-254.84	261.17	-739.85	1727303.15	14548866.75	40°03'37.317"N	104°41'22.107"W	1.11	
6179.00	0.100	124.600	6065.47	-254.93	261.27	-739.80	1727303.20	14548866.85	40°03'37.318"N	104°41'22.107"W	0.28	
6268.00	0.240	267.790	6154.47	-254.88	261.22	-739.92	1727303.08	14548866.80	40°03'37.317"N	104°41'22.108"W	0.37	
6358.00	0.170	292.760	6244.47	-254.92	261.26	-740.24	1727302.77	14548866.84	40°03'37.318"N	104°41'22.112"W	0.12	
6447.00	0.150	280.580	6333.47	-254.99	261.34	-740.47	1727302.53	14548866.91	40°03'37.318"N	104°41'22.115"W	0.04	
6537.00	0.060	21.370	6423.47	-255.06	261.40	-740.57	1727302.43	14548866.98	40°03'37.319"N	104°41'22.116"W	0.19	
6627.00	0.170	290.430	6513.47	-255.15	261.49	-740.68	1727302.32	14548867.07	40°03'37.320"N	104°41'22.118"W	0.20	
6716.00	0.220	296.680	6602.47	-255.27	261.61	-740.96	1727302.05	14548867.19	40°03'37.321"N	104°41'22.121"W	0.06	
6791.00†	1.385	167.828	6677.46	-254.45	260.79	-740.89	1727302.11	14548866.37	40°03'37.313"N	104°41'22.121"W	2.04	KOP
6805.00	1.670	166.730	6691.46	-254.08	260.43	-740.81	1727302.20	14548866.00	40°03'37.310"N	104°41'22.120"W	2.04	
6895.00	10.940	170.050	6780.82	-244.39	250.72	-739.03	1727304.01	14548856.30	40°03'37.214"N	104°41'22.097"W	10.30	
6985.00	18.730	167.310	6867.75	-221.89	228.18	-734.37	1727308.74	14548833.79	40°03'36.991"N	104°41'22.037"W	8.69	
7074.00	25.950	170.800	6950.02	-188.73	194.97	-728.11	1727315.12	14548800.61	40°03'36.663"N	104°41'21.956"W	8.24	
7164.00	33.400	183.070	7028.23	-144.47	150.69	-726.29	1727317.10	14548756.36	40°03'36.225"N	104°41'21.933"W	10.64	
7253.00	41.550	181.620	7098.81	-90.40	96.63	-728.44	1727315.14	14548702.32	40°03'35.691"N	104°41'21.960"W	9.21	
7343.00	49.740	182.520	7161.67	-26.13	32.38	-730.79	1727313.01	14548638.08	40°03'35.056"N	104°41'21.991"W	9.13	
7432.00	58.480	184.030	7213.80	45.81	-39.53	-734.96	1727309.10	14548566.19	40°03'34.345"N	104°41'22.044"W	9.92	
7522.00	64.200	183.220	7256.95	124.63	-118.31	-739.94	1727304.40	14548487.42	40°03'33.567"N	104°41'22.108"W	6.40	
7611.00	69.780	182.300	7291.72	206.46	-200.10	-743.87	1727300.76	14548405.65	40°03'32.758"N	104°41'22.159"W	6.34	
7701.00	77.810	182.110	7316.82	292.77	-286.39	-747.19	1727297.75	14548319.38	40°03'31.906"N	104°41'22.201"W	8.92	
7790.00	85.350	182.180	7329.84	380.71	-374.31	-750.48	1727294.76	14548231.49	40°03'31.037"N	104°41'22.244"W	8.47	
7873.00†	88.928	181.913	7333.99	463.56	-457.14	-753.44	1727292.10	14548148.68	40°03'30.218"N	104°41'22.282"W	4.32	LANDING (131°FNL & 2106°FWL, SEC.17) 40.0583940 -104.6895227
7880.00	89.230	181.890	7334.10	470.56	-464.13	-753.67	1727291.89	14548141.69	40°03'30.149"N	104°41'22.285"W	4.32	
7969.00	89.170	182.180	7335.34	559.52	-553.07	-756.83	1727289.04	14548052.78	40°03'29.270"N	104°41'22.325"W	0.33	
8059.00	89.080	181.160	7336.71	649.49	-643.02	-759.45	1727286.74	14547962.85	40°03'28.381"N	104°41'22.359"W	1.14	
8148.00	88.890	179.270	7338.29	738.47	-732.00	-759.79	1727286.72	14547873.90	40°03'27.502"N	104°41'22.363"W	2.13	
8202.00†	89.040	178.796	7339.27	792.44	-785.98	-758.88	1727287.82	14547819.95	40°03'26.969"N	104°41'22.351"W	0.92	CROSS SETBACK HEEL (460°FNL & 2098°FWL, SEC.17) 40.0574913 -104.6895421
8238.00	89.140	178.480	7339.84	828.42	-821.97	-758.02	1727288.80	14547783.98	40°03'26.613"N	104°41'22.340"W	0.92	
8327.00	89.170	178.720	7341.15	917.36	-910.93	-755.85	1727291.29	14547695.06	40°03'25.734"N	104°41'22.312"W	0.27	
8417.00	89.140	179.130	7342.48	1007.32	-1000.90	-754.16	1727293.29	14547605.13	40°03'24.845"N	104°41'22.291"W	0.46	
8506.00	89.230	179.140	7343.74	1096.28	-1089.89	-752.81	1727294.95	14547516.18	40°03'23.965"N	104°41'22.273"W	0.10	
8596.00	89.110	180.080	7345.05	1186.26	-1179.87	-752.20	1727295.87	14547426.24	40°03'23.076"N	104°41'22.265"W	1.05	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#35 ENGLISH FARMS 8-9HZ (326°FSL & 2335°FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-9HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (269 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
8686.00	89.170	180.820	7346.40	1276.25	-1269.86	-752.91	1727295.48	14547336.28	40°03'22.187"N	104°41'22.275"W	0.82	
8775.00	89.010	181.210	7347.81	1365.24	-1358.83	-754.48	1727294.22	14547247.34	40°03'21.308"N	104°41'22.295"W	0.47	
8865.00	90.120	181.810	7348.50	1455.22	-1448.80	-756.86	1727292.17	14547157.40	40°03'20.419"N	104°41'22.325"W	1.40	
8954.00	90.120	182.520	7348.31	1544.18	-1537.73	-760.22	1727289.12	14547068.49	40°03'19.540"N	104°41'22.368"W	0.80	
9044.00	90.090	183.070	7348.14	1634.11	-1627.63	-764.61	1727285.05	14546978.62	40°03'18.651"N	104°41'22.425"W	0.61	
9133.00	90.280	183.750	7347.86	1722.99	-1716.47	-769.90	1727280.07	14546889.79	40°03'17.773"N	104°41'22.493"W	0.79	
9223.00	90.340	183.500	7347.37	1812.85	-1806.29	-775.59	1727274.70	14546799.99	40°03'16.886"N	104°41'22.566"W	0.29	
9312.00	90.120	182.490	7347.01	1901.77	-1895.16	-780.24	1727270.36	14546711.13	40°03'16.007"N	104°41'22.626"W	1.16	
9402.00	90.150	181.790	7346.80	1991.73	-1985.10	-783.60	1727267.32	14546621.22	40°03'15.119"N	104°41'22.669"W	0.78	
9491.00	89.780	180.160	7346.86	2080.72	-2074.08	-785.12	1727266.12	14546532.27	40°03'14.239"N	104°41'22.688"W	1.88	
9581.00	90.150	178.410	7346.91	2170.70	-2164.07	-783.99	1727267.56	14546442.32	40°03'13.350"N	104°41'22.674"W	1.99	
9670.00	90.220	178.360	7346.62	2259.64	-2253.04	-781.48	1727270.38	14546353.40	40°03'12.471"N	104°41'22.642"W	0.10	
9759.00	90.090	178.890	7346.38	2348.59	-2342.01	-779.35	1727272.82	14546264.47	40°03'11.592"N	104°41'22.614"W	0.61	
9849.00	90.250	179.520	7346.11	2438.57	-2432.00	-778.10	1727274.39	14546174.52	40°03'10.702"N	104°41'22.598"W	0.72	
9938.00	90.430	179.910	7345.59	2527.56	-2521.00	-777.66	1727275.14	14546085.56	40°03'09.823"N	104°41'22.592"W	0.48	
10028.00	90.220	181.580	7345.08	2617.55	-2610.99	-778.83	1727274.29	14545995.60	40°03'08.934"N	104°41'22.607"W	1.87	
10117.00	90.090	180.500	7344.84	2706.55	-2699.97	-780.44	1727272.99	14545906.65	40°03'08.054"N	104°41'22.628"W	1.22	
10207.00	90.280	181.950	7344.54	2796.53	-2789.95	-782.37	1727271.38	14545816.70	40°03'07.165"N	104°41'22.653"W	1.62	
10297.00	90.000	181.230	7344.32	2886.52	-2879.91	-784.86	1727269.20	14545726.76	40°03'06.276"N	104°41'22.685"W	0.86	
10386.00	89.880	180.500	7344.42	2975.51	-2968.90	-786.21	1727268.17	14545637.80	40°03'05.397"N	104°41'22.702"W	0.83	
10476.00	89.970	180.420	7344.54	3065.51	-3058.90	-786.93	1727267.77	14545547.84	40°03'04.507"N	104°41'22.711"W	0.13	
10565.00	89.940	180.390	7344.61	3154.51	-3147.89	-787.56	1727267.45	14545458.88	40°03'03.628"N	104°41'22.719"W	0.05	
10655.00	89.910	180.250	7344.72	3244.51	-3237.89	-788.06	1727267.26	14545368.91	40°03'02.738"N	104°41'22.726"W	0.16	
10745.00	89.910	179.910	7344.87	3334.51	-3327.89	-788.19	1727267.46	14545278.95	40°03'01.849"N	104°41'22.727"W	0.38	
10834.00	89.910	181.260	7345.00	3423.51	-3416.89	-789.10	1727266.86	14545189.99	40°03'00.969"N	104°41'22.739"W	1.52	
10924.00	89.970	179.400	7345.10	3513.50	-3506.88	-789.61	1727266.66	14545100.03	40°03'00.080"N	104°41'22.746"W	2.07	
11013.00	89.880	178.710	7345.22	3602.48	-3595.87	-788.15	1727268.44	14545011.08	40°02'59.201"N	104°41'22.727"W	0.78	
11103.00	90.090	178.450	7345.24	3692.43	-3685.84	-785.92	1727270.98	14544921.15	40°02'58.312"N	104°41'22.698"W	0.37	
11192.00	89.780	178.600	7345.34	3781.37	-3774.81	-783.63	1727273.59	14544832.22	40°02'57.432"N	104°41'22.669"W	0.39	
11282.00	90.220	180.140	7345.34	3871.35	-3864.80	-782.64	1727274.89	14544742.27	40°02'56.543"N	104°41'22.656"W	1.78	
11371.00	89.910	181.000	7345.24	3960.35	-3953.80	-783.52	1727274.32	14544653.31	40°02'55.664"N	104°41'22.667"W	1.03	
11461.00	89.940	181.480	7345.36	4050.34	-4043.77	-785.47	1727272.69	14544563.36	40°02'54.774"N	104°41'22.692"W	0.53	
11551.00	89.780	181.860	7345.58	4140.32	-4133.74	-788.09	1727270.38	14544473.43	40°02'53.885"N	104°41'22.726"W	0.46	
11640.00	90.120	181.480	7345.65	4229.31	-4222.70	-790.69	1727268.10	14544384.49	40°02'53.006"N	104°41'22.759"W	0.57	
11730.00	90.090	181.890	7345.49	4319.29	-4312.66	-793.33	1727265.78	14544294.56	40°02'52.117"N	104°41'22.793"W	0.46	
11819.00	90.090	181.360	7345.35	4408.27	-4401.62	-795.86	1727263.57	14544205.62	40°02'51.238"N	104°41'22.826"W	0.60	
11909.00	89.970	180.500	7345.30	4498.26	-4491.61	-797.32	1727262.42	14544115.66	40°02'50.349"N	104°41'22.844"W	0.96	
11999.00	89.940	181.300	7345.37	4588.26	-4581.60	-798.73	1727261.33	14544025.71	40°02'49.459"N	104°41'22.862"W	0.89	
12088.00	89.910	180.750	7345.49	4677.26	-4670.58	-800.32	1727260.05	14543936.75	40°02'48.580"N	104°41'22.883"W	0.62	
12178.00	90.000	179.820	7345.56	4767.26	-4760.58	-800.77	1727259.92	14543846.79	40°02'47.691"N	104°41'22.889"W	1.04	
12267.00	89.940	179.520	7345.61	4856.25	-4849.58	-800.26	1727260.74	14543757.83	40°02'46.811"N	104°41'22.882"W	0.34	
12357.00	89.010	176.870	7346.43	4946.16	-4939.52	-797.42	1727263.89	14543667.93	40°02'45.922"N	104°41'22.845"W	3.12	
12446.00	88.180	175.890	7348.61	5034.90	-5028.32	-791.81	1727269.82	14543579.19	40°02'45.045"N	104°41'22.773"W	1.44	
12536.00	88.120	175.280	7351.52	5124.53	-5118.00	-784.88	1727277.06	14543489.56	40°02'44.159"N	104°41'22.684"W	0.68	
12625.00	90.920	178.350	7352.27	5213.32	-5206.84	-779.94	1727282.31	14543400.78	40°02'43.281"N	104°41'22.621"W	4.67	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#35 ENGLISH FARMS 8-9HZ (326°FSL & 2335°FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-9HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (269 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
12714.00	90.950	181.150	7350.81	5302.29	-5295.82	-779.55	1727283.01	14543311.84	40°02'42.401"N	104°41'22.615"W	3.15	
12804.00	90.890	182.140	7349.37	5392.26	-5385.77	-782.13	1727280.74	14543221.91	40°02'41.512"N	104°41'22.649"W	1.10	
12893.00	91.020	181.500	7347.88	5481.23	-5474.71	-784.96	1727278.23	14543133.00	40°02'40.633"N	104°41'22.685"W	0.73	
12983.00	90.830	180.270	7346.43	5571.21	-5564.89	-786.35	1727277.16	14543043.05	40°02'39.744"N	104°41'22.703"W	1.38	
13072.00	90.860	179.170	7345.12	5660.19	-5653.68	-785.91	1727277.91	14542954.10	40°02'38.865"N	104°41'22.697"W	1.24	
13162.00	89.940	179.360	7344.49	5750.17	-5743.67	-784.76	1727279.38	14542864.15	40°02'37.976"N	104°41'22.682"W	1.04	
13252.00	89.780	180.190	7344.71	5840.16	-5833.66	-784.41	1727280.05	14542774.19	40°02'37.086"N	104°41'22.678"W	0.94	
13341.00	89.820	180.630	7345.02	5929.16	-5922.66	-785.04	1727279.72	14542685.23	40°02'36.207"N	104°41'22.686"W	0.50	
13431.00	90.030	180.500	7345.14	6019.16	-6012.66	-785.93	1727279.15	14542595.26	40°02'35.317"N	104°41'22.697"W	0.27	
13520.00	90.150	179.770	7345.00	6108.16	-6101.66	-786.14	1727279.26	14542506.30	40°02'34.438"N	104°41'22.700"W	0.83	
13609.00	88.800	180.580	7345.81	6197.15	-6190.65	-786.41	1727279.30	14542417.34	40°02'33.558"N	104°41'22.703"W	1.77	
13699.00	88.210	181.520	7348.16	6287.11	-6280.60	-788.06	1727277.97	14542327.42	40°02'32.669"N	104°41'22.725"W	1.23	
13789.00	88.210	185.250	7350.97	6376.94	-6370.38	-793.37	1727272.97	14542237.65	40°02'31.782"N	104°41'22.793"W	4.14	
13878.00	87.970	184.020	7353.94	6465.65	-6459.04	-800.56	1727266.10	14542149.00	40°02'30.906"N	104°41'22.885"W	1.41	
13968.00	88.090	181.620	7357.04	6555.52	-6548.87	-804.98	1727261.99	14542059.19	40°02'30.018"N	104°41'22.942"W	2.67	
14057.00	87.660	180.610	7360.34	6644.45	-6637.79	-806.71	1727260.57	14541970.30	40°02'29.140"N	104°41'22.964"W	1.23	
14147.00	87.410	178.890	7364.21	6734.36	-6727.71	-806.32	1727261.28	14541880.43	40°02'28.251"N	104°41'22.959"W	1.93	
14237.00	88.400	178.150	7367.50	6824.24	-6817.61	-804.00	1727263.92	14541790.56	40°02'27.363"N	104°41'22.929"W	1.37	
14326.00	89.570	180.490	7369.07	6913.20	-6906.59	-802.94	1727265.29	14541701.63	40°02'26.483"N	104°41'22.916"W	2.94	
14416.00	87.440	183.870	7371.42	7003.11	-6996.47	-806.36	1727262.19	14541611.77	40°02'25.595"N	104°41'22.960"W	4.44	
14505.00	88.460	184.070	7374.61	7091.89	-7085.20	-812.52	1727256.34	14541523.05	40°02'24.718"N	104°41'23.038"W	1.17	
14595.00	88.890	182.620	7376.69	7181.75	-7175.02	-817.77	1727251.41	14541433.25	40°02'23.831"N	104°41'23.106"W	1.68	
14685.00	88.740	181.380	7378.55	7271.70	-7264.95	-820.91	1727248.59	14541343.35	40°02'22.942"N	104°41'23.146"W	1.39	
14774.00	89.140	178.660	7380.20	7360.67	-7353.92	-820.94	1727248.87	14541254.41	40°02'22.063"N	104°41'23.147"W	3.09	
14864.00	89.940	176.000	7380.92	7450.52	-7443.81	-816.75	1727253.38	14541164.57	40°02'21.174"N	104°41'23.093"W	3.09	
14954.00	90.770	177.240	7380.36	7540.32	-7533.65	-811.44	1727259.00	14541074.79	40°02'20.287"N	104°41'23.025"W	1.66	
15043.00	91.020	178.250	7378.97	7629.20	-7622.57	-807.94	1727262.81	14540985.92	40°02'19.408"N	104°41'22.980"W	1.17	
15133.00	90.920	179.530	7377.45	7719.15	-7712.54	-806.20	1727264.87	14540895.99	40°02'18.519"N	104°41'22.957"W	1.43	
15222.00	90.830	181.270	7376.09	7808.14	-7801.52	-806.82	1727264.56	14540807.04	40°02'17.639"N	104°41'22.965"W	1.96	
15312.00	89.780	181.810	7375.61	7898.12	-7891.49	-809.24	1727262.46	14540717.10	40°02'16.750"N	104°41'22.996"W	1.31	
15401.00	90.060	182.390	7375.73	7987.08	-7980.43	-812.50	1727259.51	14540628.19	40°02'15.871"N	104°41'23.038"W	0.72	
15490.00	89.450	181.320	7376.11	8076.06	-8069.38	-815.38	1727256.94	14540539.26	40°02'14.992"N	104°41'23.075"W	1.38	
15580.00	90.090	181.160	7376.47	8166.05	-8159.36	-817.33	1727255.31	14540449.31	40°02'14.103"N	104°41'23.100"W	0.73	
15669.00	90.060	182.690	7376.36	8255.02	-8248.30	-820.32	1727252.64	14540360.39	40°02'13.224"N	104°41'23.138"W	1.72	
15759.00	90.060	185.480	7376.26	8344.83	-8338.07	-826.73	1727246.55	14540270.64	40°02'12.337"N	104°41'23.221"W	3.10	
15848.00	90.770	184.540	7375.62	8433.55	-8426.72	-834.50	1727239.09	14540181.99	40°02'11.461"N	104°41'23.321"W	1.32	
15938.00	89.420	184.100	7375.47	8523.35	-8516.46	-841.28	1727232.63	14540092.26	40°02'10.574"N	104°41'23.408"W	1.58	
16027.00	90.000	181.960	7375.92	8612.25	-8605.33	-845.99	1727228.24	14540003.41	40°02'09.696"N	104°41'23.468"W	2.49	
16117.00	89.850	178.520	7376.04	8702.24	-8695.32	-846.36	1727228.18	14539913.46	40°02'08.807"N	104°41'23.473"W	3.83	
16207.00	89.780	177.760	7376.33	8792.16	-8785.27	-843.44	1727231.41	14539823.56	40°02'07.918"N	104°41'23.435"W	0.85	
16296.00	90.090	177.700	7376.43	8881.06	-8874.20	-839.92	1727235.25	14539734.67	40°02'07.039"N	104°41'23.390"W	0.35	
16385.00	89.970	177.930	7376.38	8969.96	-8963.13	-836.52	1727238.96	14539645.79	40°02'06.160"N	104°41'23.346"W	0.29	
16475.00	89.820	176.820	7376.55	9059.83	-9053.04	-832.40	1727243.39	14539555.93	40°02'05.272"N	104°41'23.293"W	1.24	
16564.00	89.320	178.210	7377.22	9148.70	-9141.95	-828.54	1727247.56	14539467.07	40°02'04.393"N	104°41'23.244"W	1.66	
16654.00	89.690	180.800	7377.99	9238.68	-9231.94	-827.77	1727248.65	14539377.12	40°02'03.504"N	104°41'23.234"W	2.91	



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#35 ENGLISH FARMS 8-9HZ (326°FSL & 2335°FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-9HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (269 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
16743.00	89.820	180.180	7378.37	9327.68	-9320.93	-828.53	1727248.21	14539288.16	40°02'02.624"N	104°41'23.243"W	0.71	
16833.00	89.880	179.270	7378.61	9417.67	-9410.93	-828.09	1727248.96	14539198.20	40°02'01.735"N	104°41'23.238"W	1.01	
16922.00	89.600	178.840	7379.01	9506.64	-9499.91	-826.63	1727250.74	14539109.25	40°02'00.855"N	104°41'23.219"W	0.58	
17011.00	86.520	177.200	7382.03	9595.49	-9588.80	-823.55	1727254.12	14539020.42	40°01'59.977"N	104°41'23.179"W	3.92	
17101.00	89.850	177.330	7384.88	9685.29	-9678.64	-819.26	1727258.72	14538930.63	40°01'59.089"N	104°41'23.124"W	3.70	
17190.00	89.940	178.860	7385.04	9774.21	-9767.58	-816.30	1727261.99	14538841.73	40°01'58.210"N	104°41'23.086"W	1.72	
17280.00	90.400	180.810	7384.77	9864.20	-9857.58	-816.05	1727262.57	14538751.77	40°01'57.321"N	104°41'23.083"W	2.23	
17369.00	90.370	180.950	7384.17	9953.19	-9946.57	-817.41	1727261.52	14538662.81	40°01'56.441"N	104°41'23.100"W	0.16	
17459.00	90.370	180.760	7383.59	10043.19	-10036.55	-818.76	1727260.49	14538572.86	40°01'55.552"N	104°41'23.118"W	0.21	
17548.00	90.860	180.700	7382.64	10132.18	-10125.54	-819.89	1727259.67	14538483.90	40°01'54.673"N	104°41'23.132"W	0.55	
17638.00	90.950	181.030	7381.22	10222.17	-10215.52	-821.25	1727258.63	14538393.95	40°01'53.784"N	104°41'23.149"W	0.38	
17727.00	90.150	181.690	7380.36	10311.15	-10304.49	-823.36	1727256.83	14538305.01	40°01'52.904"N	104°41'23.177"W	1.17	
17816.00	90.060	181.440	7380.20	10400.14	-10393.46	-825.79	1727254.71	14538216.07	40°01'52.025"N	104°41'23.208"W	0.30	
17905.00	90.220	181.340	7379.98	10489.13	-10482.43	-827.95	1727252.87	14538127.13	40°01'51.146"N	104°41'23.236"W	0.21	
17995.00	90.060	181.220	7379.76	10579.12	-10572.41	-829.96	1727251.17	14538037.18	40°01'50.257"N	104°41'23.261"W	0.22	
18084.00	87.470	178.520	7381.68	10668.08	-10661.37	-829.76	1727251.69	14537948.25	40°01'49.378"N	104°41'23.259"W	4.20	
18174.00	87.970	177.350	7385.26	10757.91	-10751.24	-826.52	1727255.24	14537858.43	40°01'48.489"N	104°41'23.217"W	1.41	
18263.00	90.220	179.270	7386.67	10846.83	-10840.18	-823.89	1727258.18	14537769.53	40°01'47.611"N	104°41'23.183"W	3.32	
18353.00	89.170	179.410	7387.15	10936.81	-10930.17	-822.86	1727259.53	14537679.58	40°01'46.721"N	104°41'23.170"W	1.18	
18443.00	90.220	175.970	7387.62	11026.69	-11020.08	-819.23	1727263.47	14537589.72	40°01'45.833"N	104°41'23.123"W	4.00	
18532.00	90.310	179.590	7387.21	11115.57	-11109.00	-815.78	1727267.23	14537500.85	40°01'44.954"N	104°41'23.079"W	4.07	
18622.00	92.190	182.890	7385.25	11205.52	-11198.94	-817.73	1727265.60	14537410.94	40°01'44.065"N	104°41'23.104"W	4.22	
18712.00	89.820	181.530	7383.67	11295.46	-11288.85	-821.20	1727262.45	14537321.05	40°01'43.177"N	104°41'23.148"W	3.04	
18801.00	94.530	183.530	7380.29	11384.31	-11377.67	-825.12	1727258.84	14537232.25	40°01'42.299"N	104°41'23.199"W	5.75	
18891.00	89.600	186.240	7377.05	11473.95	-11467.25	-832.78	1727251.50	14537142.68	40°01'41.414"N	104°41'23.297"W	6.25	
18980.00	87.010	185.940	7379.68	11562.48	-11555.70	-842.22	1727242.38	14537054.24	40°01'40.540"N	104°41'23.418"W	2.93	
19070.00	86.400	185.290	7384.86	11651.97	-11645.12	-851.01	1727233.91	14536964.82	40°01'39.656"N	104°41'23.531"W	0.99	
19159.00	86.090	183.740	7390.69	11740.56	-11733.65	-858.00	1727227.23	14536876.30	40°01'38.781"N	104°41'23.621"W	1.77	
19225.00†	87.644	182.471	7394.29	11806.39	-11799.45	-861.57	1727223.89	14536810.51	40°01'38.131"N	104°41'23.667"W	3.04	CROSS SETBACK TOE (866°FNL & 2079°FNL, SEC.29) 40.0272585 -104.6899075
19249.00	88.210	182.010	7395.16	11830.36	-11823.42	-862.51	1727223.04	14536786.55	40°01'37.894"N	104°41'23.679"W	3.04	
19338.00	88.490	180.590	7397.72	11919.31	-11912.36	-864.53	1727221.33	14536697.64	40°01'37.015"N	104°41'23.705"W	1.63	
19428.00	88.400	179.710	7400.17	12009.28	-12002.32	-864.76	1727221.42	14536607.71	40°01'36.126"N	104°41'23.708"W	0.98	
19517.00	89.910	179.950	7401.48	12098.26	-12091.31	-864.50	1727221.99	14536518.76	40°01'35.247"N	104°41'23.705"W	1.72	
19607.00	90.060	177.770	7401.50	12188.22	-12181.29	-862.71	1727224.10	14536428.83	40°01'34.357"N	104°41'23.682"W	2.43	
19697.00	90.280	178.860	7401.23	12278.15	-12271.24	-860.06	1727227.06	14536338.91	40°01'33.468"N	104°41'23.647"W	1.24	
19787.00	89.660	179.450	7401.28	12368.13	-12361.23	-858.73	1727228.70	14536248.97	40°01'32.579"N	104°41'23.630"W	0.95	
19876.00	90.060	179.460	7401.50	12457.11	-12450.23	-857.89	1727229.86	14536160.01	40°01'31.700"N	104°41'23.619"W	0.45	
19966.00	90.250	179.980	7401.26	12547.10	-12540.23	-857.45	1727230.62	14536070.05	40°01'30.810"N	104°41'23.614"W	0.62	
20056.00	90.220	180.130	7400.89	12637.10	-12630.23	-857.53	1727230.85	14535980.08	40°01'29.921"N	104°41'23.615"W	0.17	
20145.00	90.310	181.000	7400.47	12726.10	-12719.22	-858.41	1727230.28	14535891.12	40°01'29.041"N	104°41'23.626"W	0.98	
20235.00	90.120	181.620	7400.14	12816.09	-12809.20	-860.47	1727228.54	14535801.18	40°01'28.152"N	104°41'23.652"W	0.72	
20414.00	90.060	181.990	7399.86	12995.04	-12988.11	-866.11	1727223.54	14535622.32	40°01'26.384"N	104°41'23.725"W	0.21	
20514.00	90.060	181.970	7399.75	13095.00	-13088.05	-869.56	1727220.43	14535522.41	40°01'25.396"N	104°41'23.769"W	0.02	LAST BHGE MWD+IFR1+MSA SURVEY
20538.00	90.060	181.970	7399.73	13119.00	-13112.03	-870.39	1727219.69	14535498.43	40°01'25.159"N	104°41'23.780"W	0.00	PTB (2178°FNL & 2071°FNL, SEC.29) 40.0236554 -104.6899388



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#35 ENGLISH FARMS 8-9HZ (326°FSL & 2335°FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-9HZ AWB
Facility	SEC.08-T1N-R65W		

HOLE & CASING SECTIONS - Ref Wellbore: ENGLISH FARMS 8-9HZ AWB Ref Wellpath: ENGLISH FARMS 8-9HZ 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	1876.00	1850.00	26.00	1831.73	0.00	0.00	102.77	-311.62

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	195.43	-2520.66	1725523.29	14548794.77	40°03'36.666"N	104°41'45.010"W	polygon
SEC.20-T1N-R65W	-34.00	195.43	-2520.66	1725523.29	14548794.77	40°03'36.666"N	104°41'45.010"W	polygon
ENGLISH FARMS 8-9HZ HEEL REV-1(50'FNL & 2111'FWL,SEC.17)	7316.00	-375.53	-747.65	1727297.60	14548230.27	40°03'31.025"N	104°41'22.207"W	point
ENGLISH FARMS 8-9HZ INT. TARGET@6000'VS	7316.00	-5993.41	-795.73	1727269.29	14542614.47	40°02'35.508"N	104°41'22.823"W	point
ENGLISH FARMS 8-9HZ BHL REV-1(2183'FNL & 2084'FWL,SEC.29)	7376.00	-13116.55	-856.71	1727233.38	14535493.96	40°01'25.115"N	104°41'23.604"W	point
ENGLISH FARMS 8-9HZ INT. TARGET@9000'VS	7376.00	-8993.30	-821.41	1727254.17	14539615.69	40°02'05.862"N	104°41'23.152"W	point
ENGLISH FARMS 8-9HZ LANDBOX	7376.00	0.00	0.00	1728043.63	14548608.28	40°03'34.736"N	104°41'12.592"W	polygon
ENGLISH FARMS 8-9HZ SETBACK 1	7376.00	0.00	0.00	1728043.63	14548608.28	40°03'34.736"N	104°41'12.592"W	polygon
ENGLISH FARMS 8-9HZ SETBACK 2	7376.00	0.00	0.00	1728043.63	14548608.28	40°03'34.736"N	104°41'12.592"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: ENGLISH FARMS 8-9HZ AWB Ref Wellpath: ENGLISH FARMS 8-9HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	1837.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <134 - 1837>	ENGLISH FARMS 8-9HZ AWB
1837.00	20514.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1888 - 20514>	ENGLISH FARMS 8-9HZ AWB
20514.00	20538.00	Blind Drilling (std)	Projection to bit	ENGLISH FARMS 8-9HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#35 ENGLISH FARMS 8-9HZ (326'FSL & 2335'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-9HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
134.00	0.620	114.130	134.00	FIRST SURFACE MWD+IFR1 SURVEY
1837.00	18.410	288.330	1794.70	LAST SURFACE MWD+IFR1 SURVEY
1888.00	18.180	286.920	1843.13	FIRST BHGE MWD+IFR1+MSA SURVEY
3435.00	5.797	286.477	3322.45	ENTER LANDBOX (577'FSL & 2139'FWL,SEC.08) 40.0603391 -104.6894032
6791.00	1.385	167.828	6677.46	KOP
7873.00	88.928	181.913	7333.99	LANDING (131'FNL & 2106'FWL,SEC.17) 40.0583940 -104.6895227
8202.00	89.040	178.796	7339.27	CROSS SETBACK HEEL (460'FNL & 2098'FWL,SEC.17) 40.0574913 -104.6895421
19225.00	87.644	182.471	7394.29	CROSS SETBACK TOE (866'FNL & 2079'FWL,SEC.29) 40.0272585 -104.6899075
20514.00	90.060	181.970	7399.75	LAST BHGE MWD+IFR1+MSA SURVEY
20538.00	90.060	181.970	7399.73	PTB (2178'FNL & 2071'FWL,SEC.29) 40.0236554 -104.6899388