

KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO	Slot: SLOT#34 ENGLISH FARMS 8-8HZ (338'FSL & 2345'FEL, SEC.08)
Field: WELD COUNTY (UTM/TRUE NORTH)	Well: ENGLISH FARMS 8-8HZ
Facility: SEC.08-T1N-R65W	Wellbore: ENGLISH FARMS 8-8HZ PWB
Plot reference wellpath is ENGLISH FARMS 8-8HZ PWP RevB.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#34 ENGLISH FARMS 8-8HZ (338'FSL & 2345'FEL, SEC.08)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: patrisetr on 2018-07-24
	Database: WA_DEN_Anadarko_Delhi



Actual Wellpath Report

ENGLISH FARMS 8-8HZ AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 ENGLISH FARMS 8-8HZ (338'FSL & 2345'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-8HZ 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	7/24/2018 at 2:10 PM
Convergence at slot	0.21° East	Database/Source file	WA_DEN_Anadarko_Defn/ENGLISH_FARMS_8-8HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-4214.79	-1703.31	1728034.10	14548619.58	40°03'34.848"N	104°41'12.714"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#34 ENGLISH FARMS 8-8HZ (338'FSL & 2345'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	180.31°

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Area	COLORADO	Well	ENGLISH FARMS 8-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-8HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (266 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	157.290	0.00	0.00	0.00	0.00	1728034.10	14548619.58	40°03'34.848"N	104°41'12.714"W	0.00	
26.00	0.000	157.290	26.00	0.00	0.00	0.00	1728034.10	14548619.58	40°03'34.848"N	104°41'12.714"W	0.00	
134.00	0.350	157.290	134.00	0.30	-0.30	0.13	1728034.23	14548619.27	40°03'34.845"N	104°41'12.712"W	0.32	FIRST SURFACE MWD+IFR1 SURVEY
166.00	0.310	190.950	166.00	0.48	-0.48	0.15	1728034.25	14548619.10	40°03'34.843"N	104°41'12.712"W	0.61	
198.00	0.260	178.470	198.00	0.64	-0.64	0.13	1728034.24	14548618.94	40°03'34.842"N	104°41'12.712"W	0.25	
261.00	0.920	284.910	261.00	0.65	-0.65	-0.35	1728033.76	14548618.93	40°03'34.842"N	104°41'12.719"W	1.63	
293.00	1.270	297.470	292.99	0.42	-0.42	-0.91	1728033.19	14548619.15	40°03'34.844"N	104°41'12.726"W	1.32	
324.00	1.270	301.520	323.98	0.09	-0.08	-1.51	1728032.59	14548619.49	40°03'34.847"N	104°41'12.733"W	0.29	
356.00	1.710	287.100	355.97	-0.23	0.24	-2.27	1728031.83	14548619.81	40°03'34.850"N	104°41'12.743"W	1.80	
388.00	2.460	290.790	387.95	-0.61	0.63	-3.37	1728030.73	14548620.19	40°03'34.854"N	104°41'12.757"W	2.38	
420.00	2.330	286.220	419.92	-1.03	1.05	-4.64	1728029.47	14548620.61	40°03'34.858"N	104°41'12.774"W	0.72	
451.00	3.120	288.420	450.89	-1.46	1.50	-6.04	1728028.06	14548621.05	40°03'34.863"N	104°41'12.792"W	2.57	
483.00	4.130	286.490	482.82	-2.06	2.10	-7.97	1728026.13	14548621.65	40°03'34.869"N	104°41'12.817"W	3.18	
514.00	4.310	287.720	513.74	-2.72	2.77	-10.15	1728023.95	14548622.31	40°03'34.875"N	104°41'12.845"W	0.65	
546.00	5.580	288.680	545.62	-3.57	3.63	-12.77	1728021.33	14548623.17	40°03'34.884"N	104°41'12.878"W	3.98	
577.00	6.280	289.740	576.45	-4.60	4.69	-15.79	1728018.30	14548624.21	40°03'34.894"N	104°41'12.917"W	2.29	
609.00	6.940	288.510	608.24	-5.79	5.89	-19.28	1728014.82	14548625.40	40°03'34.906"N	104°41'12.962"W	2.11	
641.00	7.390	290.790	639.99	-7.11	7.24	-23.03	1728011.06	14548626.73	40°03'34.920"N	104°41'13.010"W	1.66	
673.00	8.170	288.860	671.70	-8.56	8.70	-27.11	1728006.98	14548628.18	40°03'34.934"N	104°41'13.063"W	2.57	
705.00	9.010	283.500	703.34	-9.85	10.02	-31.70	1728002.38	14548629.49	40°03'34.947"N	104°41'13.122"W	3.62	
768.00	11.780	270.050	765.31	-10.95	11.18	-42.93	1727991.15	14548630.60	40°03'34.958"N	104°41'13.266"W	5.82	
800.00	12.260	268.730	796.60	-10.84	11.11	-49.59	1727984.49	14548630.51	40°03'34.958"N	104°41'13.352"W	1.73	
831.00	12.350	270.050	826.89	-10.74	11.04	-56.20	1727977.89	14548630.41	40°03'34.957"N	104°41'13.437"W	0.95	
863.00	12.260	273.920	858.16	-10.94	11.27	-63.01	1727971.08	14548630.63	40°03'34.959"N	104°41'13.524"W	2.59	
895.00	12.350	274.800	889.42	-11.42	11.79	-69.81	1727964.28	14548631.12	40°03'34.965"N	104°41'13.612"W	0.65	
927.00	12.920	276.730	920.65	-12.09	12.50	-76.77	1727957.32	14548631.80	40°03'34.972"N	104°41'13.701"W	2.22	
958.00	13.010	277.700	950.86	-12.92	13.37	-83.67	1727950.42	14548632.65	40°03'34.980"N	104°41'13.790"W	0.76	
1021.00	14.850	283.590	1012.00	-15.69	16.22	-98.55	1727935.54	14548635.44	40°03'35.008"N	104°41'13.981"W	3.68	
1053.00	15.070	284.990	1042.92	-17.69	18.26	-106.55	1727927.53	14548637.46	40°03'35.028"N	104°41'14.084"W	1.32	
1085.00	14.990	286.140	1073.83	-19.87	20.49	-114.55	1727919.53	14548639.65	40°03'35.050"N	104°41'14.187"W	0.96	
1116.00	15.030	285.340	1103.77	-22.01	22.66	-122.27	1727911.80	14548641.80	40°03'35.072"N	104°41'14.287"W	0.68	
1148.00	16.130	284.470	1134.59	-24.17	24.87	-130.58	1727903.49	14548643.98	40°03'35.094"N	104°41'14.393"W	3.51	
1180.00	17.050	283.590	1165.26	-26.34	27.09	-139.44	1727894.62	14548646.16	40°03'35.116"N	104°41'14.507"W	2.98	
1212.00	17.490	284.110	1195.82	-28.56	29.36	-148.67	1727885.39	14548648.40	40°03'35.138"N	104°41'14.626"W	1.46	
1243.00	17.450	284.030	1225.39	-30.78	31.62	-157.69	1727876.36	14548650.63	40°03'35.160"N	104°41'14.742"W	0.15	
1275.00	17.490	283.500	1255.91	-33.01	33.91	-167.02	1727867.03	14548652.88	40°03'35.183"N	104°41'14.862"W	0.51	
1306.00	17.530	283.760	1285.47	-35.16	36.11	-176.09	1727857.96	14548655.05	40°03'35.205"N	104°41'14.979"W	0.28	
1338.00	17.620	283.760	1315.98	-37.41	38.40	-185.47	1727848.57	14548657.31	40°03'35.228"N	104°41'15.099"W	0.28	
1370.00	17.750	284.470	1346.47	-39.73	40.77	-194.90	1727839.14	14548659.65	40°03'35.251"N	104°41'15.221"W	0.79	
1401.00	17.580	285.340	1376.01	-42.10	43.19	-203.99	1727830.04	14548662.04	40°03'35.275"N	104°41'15.338"W	1.01	
1432.00	17.750	285.520	1405.54	-44.55	45.70	-213.06	1727820.97	14548664.51	40°03'35.300"N	104°41'15.454"W	0.58	
1464.00	17.750	285.080	1436.02	-47.08	48.27	-222.47	1727811.55	14548667.05	40°03'35.325"N	104°41'15.575"W	0.42	
1496.00	17.750	285.260	1466.50	-49.58	50.82	-231.89	1727802.13	14548669.57	40°03'35.350"N	104°41'15.696"W	0.17	
1527.00	18.330	286.580	1495.97	-52.17	53.46	-241.12	1727792.90	14548672.17	40°03'35.376"N	104°41'15.815"W	2.29	
1559.00	18.460	286.580	1526.34	-55.00	56.34	-250.79	1727783.21	14548675.01	40°03'35.405"N	104°41'15.939"W	0.41	

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1591.00	18.720	284.400	1556.67	-57.67	59.06	-260.62	1727773.38	14548677.70	40°03'35.432"N	104°41'16.066"W	2.32	
1622.00	18.980	286.050	1586.01	-60.24	61.69	-270.29	1727763.71	14548680.30	40°03'35.458"N	104°41'16.190"W	1.91	
1654.00	19.290	286.400	1616.24	-63.12	64.63	-280.36	1727753.63	14548683.19	40°03'35.487"N	104°41'16.320"W	1.03	
1686.00	19.160	286.400	1646.45	-66.04	67.60	-290.47	1727743.52	14548686.13	40°03'35.516"N	104°41'16.450"W	0.41	
1718.00	18.900	287.100	1676.71	-69.00	70.61	-300.46	1727733.52	14548689.10	40°03'35.546"N	104°41'16.578"W	1.08	
1749.00	18.940	286.580	1706.03	-71.86	73.52	-310.08	1727723.89	14548691.98	40°03'35.575"N	104°41'16.702"W	0.56	
1781.00	19.250	286.220	1736.27	-74.76	76.47	-320.12	1727713.84	14548694.90	40°03'35.604"N	104°41'16.831"W	1.04	
1813.00	19.340	286.140	1766.47	-77.65	79.42	-330.28	1727703.68	14548697.81	40°03'35.633"N	104°41'16.962"W	0.29	
1842.00	17.930	285.780	1793.95	-80.15	81.97	-339.18	1727694.77	14548700.32	40°03'35.658"N	104°41'17.076"W	4.88	LAST SURFACE MWD+IFR1 SURVEY
1890.00	17.330	284.110	1839.70	-83.83	85.72	-353.23	1727680.72	14548704.02	40°03'35.695"N	104°41'17.257"W	1.63	FIRST BHGE MWD+IFR1+MSA SURVEY
1969.00	17.810	284.070	1915.01	-89.51	91.53	-376.36	1727657.57	14548709.75	40°03'35.752"N	104°41'17.554"W	0.61	
2059.00	17.600	282.940	2000.75	-95.76	97.92	-402.97	1727630.95	14548716.04	40°03'35.816"N	104°41'17.897"W	0.45	
2148.00	18.130	283.740	2085.46	-101.92	104.22	-429.54	1727604.37	14548722.25	40°03'35.878"N	104°41'18.238"W	0.66	
2238.00	18.120	285.630	2170.99	-108.87	111.32	-456.62	1727577.28	14548729.25	40°03'35.948"N	104°41'18.586"W	0.65	
2327.00	18.190	286.880	2255.56	-116.49	119.08	-483.24	1727550.64	14548736.91	40°03'36.025"N	104°41'18.929"W	0.44	
2417.00	18.060	288.670	2341.10	-124.89	127.63	-509.90	1727523.96	14548745.36	40°03'36.109"N	104°41'19.272"W	0.64	
2507.00	17.830	292.850	2426.72	-134.57	137.44	-535.81	1727498.02	14548755.08	40°03'36.206"N	104°41'19.605"W	1.45	
2596.00	18.160	294.360	2511.37	-145.45	148.45	-561.00	1727472.80	14548766.00	40°03'36.315"N	104°41'19.929"W	0.64	
2686.00	17.990	290.840	2596.93	-156.04	159.18	-586.77	1727447.01	14548776.64	40°03'36.421"N	104°41'20.260"W	1.23	
2775.00	17.690	293.420	2681.65	-166.17	169.45	-612.02	1727421.73	14548786.81	40°03'36.522"N	104°41'20.585"W	0.95	
2865.00	17.990	293.280	2767.32	-176.96	180.38	-637.34	1727396.39	14548797.64	40°03'36.630"N	104°41'20.911"W	0.34	
2954.00	18.000	290.590	2851.97	-187.09	190.65	-662.83	1727370.86	14548807.82	40°03'36.732"N	104°41'21.239"W	0.93	
3044.00	18.050	286.110	2937.56	-195.71	199.40	-689.25	1727344.43	14548816.48	40°03'36.818"N	104°41'21.578"W	1.54	
3119.00†	18.064	283.951	3008.87	-201.62	205.43	-711.70	1727321.97	14548822.43	40°03'36.878"N	104°41'21.867"W	0.89	ENTER LANDBOX (543°FSL & 2136°FWL, SEC.08) 40.0602439 -104.6894075
3134.00	18.070	283.520	3023.13	-202.70	206.54	-716.22	1727317.45	14548823.51	40°03'36.889"N	104°41'21.925"W	0.89	
3223.00	18.020	281.500	3107.75	-208.52	212.51	-743.13	1727290.53	14548829.39	40°03'36.948"N	104°41'22.271"W	0.71	
3313.00	17.960	278.220	3193.35	-213.14	217.27	-770.50	1727263.15	14548834.05	40°03'36.995"N	104°41'22.623"W	1.13	
3403.00	17.250	275.100	3279.14	-216.16	220.44	-797.53	1727236.12	14548837.12	40°03'37.026"N	104°41'22.971"W	1.31	
3492.00	14.210	275.010	3364.79	-218.16	222.57	-821.56	1727212.09	14548839.17	40°03'37.047"N	104°41'23.280"W	3.42	
3581.00	11.560	275.630	3451.55	-219.88	224.39	-841.32	1727192.33	14548840.92	40°03'37.065"N	104°41'23.534"W	2.98	
3671.00	11.170	280.100	3539.78	-222.20	226.81	-858.88	1727174.77	14548843.28	40°03'37.089"N	104°41'23.760"W	1.07	
3760.00	11.080	292.990	3627.12	-226.97	231.66	-875.24	1727158.40	14548848.07	40°03'37.137"N	104°41'23.970"W	2.79	
3850.00	9.920	299.650	3715.62	-234.10	238.87	-889.94	1727143.68	14548855.23	40°03'37.208"N	104°41'24.159"W	1.86	
3940.00	8.680	304.970	3804.44	-241.76	246.60	-902.24	1727131.36	14548862.91	40°03'37.285"N	104°41'24.318"W	1.68	
4029.00	6.180	298.850	3892.68	-247.87	252.76	-911.94	1727121.64	14548869.03	40°03'37.346"N	104°41'24.442"W	2.94	
4119.00	4.780	279.200	3982.28	-250.77	255.70	-919.89	1727113.68	14548871.94	40°03'37.375"N	104°41'24.545"W	2.58	
4208.00	3.260	261.470	4071.06	-250.95	255.92	-926.05	1727107.52	14548872.14	40°03'37.377"N	104°41'24.624"W	2.19	
4297.00	0.710	251.760	4160.00	-250.39	255.37	-929.08	1727104.50	14548871.58	40°03'37.371"N	104°41'24.663"W	2.88	
4387.00	0.040	249.640	4250.00	-250.20	255.19	-929.64	1727103.94	14548871.39	40°03'37.370"N	104°41'24.670"W	0.74	
4477.00	0.220	295.670	4340.00	-250.26	255.25	-929.82	1727103.76	14548871.46	40°03'37.370"N	104°41'24.672"W	0.22	
4566.00	0.690	240.790	4428.99	-250.07	255.06	-930.44	1727103.13	14548871.27	40°03'37.368"N	104°41'24.680"W	0.66	
4656.00	0.180	200.800	4518.99	-249.67	254.67	-930.97	1727102.61	14548870.87	40°03'37.364"N	104°41'24.687"W	0.63	
4745.00	0.250	192.720	4607.99	-249.35	254.34	-931.06	1727102.52	14548870.55	40°03'37.361"N	104°41'24.688"W	0.09	
4835.00	0.090	147.170	4697.99	-249.10	254.09	-931.06	1727102.52	14548870.30	40°03'37.359"N	104°41'24.688"W	0.22	
4924.00	0.040	24.320	4786.99	-249.07	254.06	-931.01	1727102.57	14548870.27	40°03'37.359"N	104°41'24.688"W	0.13	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 ENGLISH FARMS 8-8HZ (338°FSL & 2345°FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-8HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (266 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
5014.00	0.150	69.710	4876.99	-249.14	254.13	-930.89	1727102.69	14548870.34	40°03'37.359"N	104°41'24.686"W	0.14	
5103.00	0.250	122.800	4965.99	-249.08	254.07	-930.62	1727102.96	14548870.27	40°03'37.359"N	104°41'24.683"W	0.22	
5193.00	0.170	342.470	5055.99	-249.10	254.09	-930.49	1727103.09	14548870.29	40°03'37.359"N	104°41'24.681"W	0.44	
5283.00	0.250	357.740	5145.99	-249.42	254.41	-930.54	1727103.04	14548870.62	40°03'37.362"N	104°41'24.682"W	0.11	
5372.00	0.100	339.240	5234.99	-249.69	254.68	-930.58	1727103.00	14548870.88	40°03'37.365"N	104°41'24.682"W	0.18	
5462.00	0.110	306.470	5324.99	-249.81	254.80	-930.67	1727102.91	14548871.01	40°03'37.366"N	104°41'24.683"W	0.07	
5551.00	0.310	124.090	5413.99	-249.73	254.72	-930.54	1727103.04	14548870.92	40°03'37.365"N	104°41'24.682"W	0.47	
5640.00	0.070	5.410	5502.99	-249.65	254.64	-930.34	1727103.24	14548870.84	40°03'37.364"N	104°41'24.679"W	0.39	
5730.00	0.030	122.020	5592.99	-249.69	254.68	-930.31	1727103.27	14548870.89	40°03'37.365"N	104°41'24.679"W	0.10	
5819.00	0.070	65.650	5681.99	-249.70	254.69	-930.24	1727103.34	14548870.90	40°03'37.365"N	104°41'24.678"W	0.07	
5909.00	0.130	131.190	5771.99	-249.66	254.65	-930.12	1727103.46	14548870.85	40°03'37.364"N	104°41'24.676"W	0.13	
5998.00	0.100	176.490	5860.99	-249.52	254.50	-930.04	1727103.54	14548870.71	40°03'37.363"N	104°41'24.675"W	0.10	
6088.00	0.180	53.200	5950.99	-249.52	254.51	-929.92	1727103.66	14548870.72	40°03'37.363"N	104°41'24.674"W	0.28	
6178.00	0.100	306.460	6040.99	-249.65	254.64	-929.87	1727103.71	14548870.85	40°03'37.364"N	104°41'24.673"W	0.26	
6267.00	0.110	354.520	6129.99	-249.79	254.77	-929.94	1727103.64	14548870.98	40°03'37.366"N	104°41'24.674"W	0.10	
6357.00	0.040	276.750	6219.99	-249.87	254.86	-929.98	1727103.60	14548871.07	40°03'37.366"N	104°41'24.674"W	0.12	
6446.00	0.180	267.060	6308.99	-249.87	254.86	-930.15	1727103.43	14548871.06	40°03'37.366"N	104°41'24.677"W	0.16	
6536.00	0.070	317.470	6398.99	-249.90	254.89	-930.33	1727103.25	14548871.10	40°03'37.367"N	104°41'24.679"W	0.16	
6604.00†	1.653	177.979	6466.98	-248.95	253.94	-930.32	1727103.26	14548870.15	40°03'37.357"N	104°41'24.679"W	2.51	KOP
6625.00	2.180	177.610	6487.96	-248.25	253.24	-930.29	1727103.29	14548869.45	40°03'37.350"N	104°41'24.678"W	2.51	
6715.00	9.990	178.140	6577.39	-238.73	243.71	-929.97	1727103.65	14548859.92	40°03'37.256"N	104°41'24.674"W	8.68	
6804.00	17.750	176.070	6663.73	-217.45	222.43	-928.79	1727104.91	14548838.65	40°03'37.046"N	104°41'24.659"W	8.74	
6894.00	25.750	177.300	6747.25	-184.19	189.16	-926.92	1727106.89	14548805.40	40°03'36.717"N	104°41'24.635"W	8.90	
6983.00	32.320	180.880	6825.03	-141.04	146.01	-926.38	1727107.59	14548762.27	40°03'36.291"N	104°41'24.628"W	7.63	
7073.00	40.350	181.180	6897.47	-87.77	92.74	-927.35	1727106.80	14548709.02	40°03'35.764"N	104°41'24.641"W	8.92	
7162.00	48.840	181.540	6960.79	-25.35	30.33	-928.84	1727105.53	14548646.63	40°03'35.148"N	104°41'24.660"W	9.54	
7252.00	56.030	180.220	7015.63	45.94	-40.96	-929.90	1727104.72	14548575.37	40°03'34.443"N	104°41'24.673"W	8.07	
7341.00	63.110	179.350	7060.67	122.63	-117.65	-929.59	1727105.30	14548498.71	40°03'33.685"N	104°41'24.669"W	8.00	
7431.00	70.350	179.920	7096.21	205.24	-200.27	-929.07	1727106.10	14548416.12	40°03'32.869"N	104°41'24.663"W	8.07	
7520.00	78.600	179.830	7120.01	290.92	-285.95	-928.89	1727106.59	14548330.48	40°03'32.022"N	104°41'24.660"W	9.27	
7610.00	87.840	180.190	7130.62	380.19	-375.22	-928.90	1727106.89	14548241.24	40°03'31.140"N	104°41'24.660"W	10.27	
7634.00†	88.530	180.320	7131.38	404.18	-399.21	-929.01	1727106.87	14548217.26	40°03'30.903"N	104°41'24.662"W	2.93	LANDING (61°FNL & 1920°FWL, SEC.17) 40.0585841 -104.6901838
7699.00	90.400	180.670	7131.99	469.17	-464.20	-929.57	1727106.54	14548152.30	40°03'30.261"N	104°41'24.669"W	2.93	
7789.00	90.520	181.330	7131.27	559.16	-554.18	-931.14	1727105.28	14548062.34	40°03'29.371"N	104°41'24.689"W	0.75	
7878.00	90.340	182.340	7130.60	648.13	-643.13	-933.99	1727102.75	14547973.42	40°03'28.492"N	104°41'24.726"W	1.15	
7968.00	90.710	182.000	7129.77	738.08	-733.06	-937.40	1727099.66	14547883.51	40°03'27.604"N	104°41'24.769"W	0.56	
8032.00†	90.530	180.641	7129.08	802.06	-797.04	-938.88	1727098.41	14547819.55	40°03'26.971"N	104°41'24.788"W	2.14	CROSS SETBACK HEEL (459°FNL & 1909°FWL, SEC.17) 40.0574920 -104.6902190
8057.00	90.460	180.110	7128.86	827.06	-822.04	-939.04	1727098.33	14547794.56	40°03'26.724"N	104°41'24.790"W	2.14	
8147.00	90.520	179.510	7128.09	917.05	-912.04	-938.74	1727098.95	14547704.61	40°03'25.835"N	104°41'24.787"W	0.67	
8236.00	90.400	178.430	7127.38	1006.02	-1001.02	-937.14	1727100.86	14547615.67	40°03'24.956"N	104°41'24.766"W	1.22	
8326.00	90.520	176.190	7126.66	1095.89	-1090.91	-932.92	1727105.40	14547525.82	40°03'24.067"N	104°41'24.712"W	2.49	
8416.00	90.400	176.530	7125.93	1185.68	-1180.73	-927.20	1727111.42	14547436.06	40°03'23.180"N	104°41'24.638"W	0.40	
8505.00	90.590	176.990	7125.17	1274.50	-1269.58	-922.17	1727116.76	14547347.26	40°03'22.302"N	104°41'24.573"W	0.56	
8595.00	90.460	178.890	7124.34	1364.42	-1359.51	-918.94	1727120.31	14547257.38	40°03'21.413"N	104°41'24.532"W	2.12	
8684.00	90.400	179.140	7123.67	1453.39	-1448.50	-917.41	1727122.15	14547168.43	40°03'20.533"N	104°41'24.512"W	0.29	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 ENGLISH FARMS 8-8HZ (338°FSL & 2345°FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-8HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (266 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
8774.00	90.430	180.030	7123.02	1543.38	-1538.49	-916.76	1727123.12	14547078.48	40°03'19.644"N	104°41'24.504"W	0.99	
8863.00	90.430	182.120	7122.35	1632.37	-1627.47	-918.43	1727121.77	14546989.53	40°03'18.765"N	104°41'24.525"W	2.35	
8953.00	90.030	182.020	7121.99	1722.32	-1717.41	-921.68	1727118.83	14546899.61	40°03'17.876"N	104°41'24.567"W	0.46	
9042.00	89.780	183.410	7122.14	1811.24	-1806.31	-925.89	1727114.93	14546810.74	40°03'16.997"N	104°41'24.621"W	1.59	
9132.00	89.910	182.540	7122.38	1901.14	-1896.18	-930.56	1727110.58	14546720.88	40°03'16.109"N	104°41'24.681"W	0.98	
9221.00	89.820	182.250	7122.59	1990.08	-1985.11	-934.28	1727107.17	14546631.98	40°03'15.231"N	104°41'24.729"W	0.34	
9311.00	89.940	182.030	7122.78	2080.04	-2075.04	-937.64	1727104.13	14546542.07	40°03'14.342"N	104°41'24.772"W	0.28	
9400.00	90.000	181.630	7122.83	2169.01	-2164.00	-940.49	1727101.60	14546453.14	40°03'13.463"N	104°41'24.808"W	0.45	
9490.00	90.120	181.580	7122.73	2258.98	-2253.96	-943.01	1727099.40	14546363.20	40°03'12.574"N	104°41'24.841"W	0.14	
9579.00	90.030	181.950	7122.62	2347.95	-2342.92	-945.75	1727096.97	14546274.27	40°03'11.695"N	104°41'24.876"W	0.43	
9668.00	90.060	181.270	7122.55	2436.93	-2431.88	-948.25	1727094.78	14546185.33	40°03'10.815"N	104°41'24.908"W	0.76	
9758.00	89.940	181.600	7122.55	2526.91	-2521.86	-950.50	1727092.85	14546095.39	40°03'09.926"N	104°41'24.937"W	0.39	
9847.00	89.910	179.430	7122.66	2615.91	-2610.85	-951.30	1727092.36	14546006.43	40°03'09.047"N	104°41'24.947"W	2.44	
9937.00	89.940	182.120	7122.78	2705.90	-2700.83	-952.52	1727091.46	14545916.48	40°03'08.158"N	104°41'24.963"W	2.99	
10027.00	90.090	182.660	7122.76	2795.84	-2790.75	-956.27	1727088.03	14545826.58	40°03'07.269"N	104°41'25.011"W	0.62	
10116.00	89.940	182.510	7122.73	2884.76	-2879.66	-960.29	1727084.33	14545737.69	40°03'06.390"N	104°41'25.063"W	0.24	
10206.00	90.150	182.900	7122.66	2974.69	-2969.56	-964.53	1727080.40	14545647.81	40°03'05.502"N	104°41'25.117"W	0.49	
10296.00	89.910	183.350	7122.62	3064.58	-3059.43	-969.44	1727075.81	14545557.97	40°03'04.614"N	104°41'25.180"W	0.57	
10385.00	89.940	182.930	7122.73	3153.47	-3148.29	-974.32	1727071.25	14545469.12	40°03'03.736"N	104°41'25.243"W	0.47	
10475.00	89.940	182.600	7122.83	3243.38	-3238.19	-978.66	1727067.22	14545379.24	40°03'02.847"N	104°41'25.299"W	0.37	
10565.00	89.780	182.690	7123.05	3333.31	-3328.09	-982.81	1727063.39	14545289.36	40°03'01.959"N	104°41'25.352"W	0.20	
10654.00	89.970	181.750	7123.24	3422.26	-3417.02	-986.26	1727060.25	14545200.45	40°03'01.080"N	104°41'25.396"W	1.08	
10743.00	89.880	180.430	7123.36	3511.25	-3506.00	-987.95	1727058.88	14545111.50	40°03'00.201"N	104°41'25.418"W	1.49	
10833.00	89.780	178.210	7123.63	3601.23	-3595.99	-986.88	1727060.26	14545021.55	40°02'59.311"N	104°41'25.404"W	2.47	
10923.00	89.940	179.060	7123.85	3691.19	-3685.97	-984.74	1727062.72	14544931.62	40°02'58.422"N	104°41'25.377"W	0.96	
11012.00	90.060	180.450	7123.85	3780.18	-3774.96	-984.36	1727063.41	14544842.66	40°02'57.543"N	104°41'25.372"W	1.57	
11101.00	89.850	181.240	7123.92	3869.18	-3863.95	-985.67	1727062.41	14544753.70	40°02'56.663"N	104°41'25.389"W	0.92	
11191.00	89.940	182.180	7124.08	3959.15	-3953.91	-988.36	1727060.04	14544663.77	40°02'55.774"N	104°41'25.423"W	1.05	
11281.00	89.940	183.450	7124.17	4049.06	-4043.80	-992.78	1727055.94	14544573.90	40°02'54.886"N	104°41'25.480"W	1.41	
11370.00	89.970	181.500	7124.24	4137.99	-4132.71	-996.62	1727052.41	14544485.01	40°02'54.007"N	104°41'25.529"W	2.19	
11460.00	89.940	179.000	7124.32	4227.99	-4222.71	-997.01	1727052.34	14544395.05	40°02'53.118"N	104°41'25.534"W	2.78	
11549.00	90.060	174.530	7124.32	4316.79	-4311.54	-991.99	1727057.67	14544306.27	40°02'52.240"N	104°41'25.470"W	5.02	
11639.00	90.120	174.690	7124.17	4406.35	-4401.14	-983.54	1727066.43	14544216.73	40°02'51.355"N	104°41'25.361"W	0.19	
11729.00	89.910	177.660	7124.15	4496.11	-4490.93	-977.53	1727072.75	14544127.00	40°02'50.467"N	104°41'25.284"W	3.31	
11818.00	89.880	177.430	7124.31	4585.00	-4579.85	-973.72	1727076.87	14544038.13	40°02'49.589"N	104°41'25.235"W	0.26	
11908.00	89.850	176.170	7124.53	4674.83	-4669.71	-968.70	1727082.21	14543948.33	40°02'48.701"N	104°41'25.170"W	1.40	
11998.00	89.750	175.470	7124.84	4764.55	-4759.47	-962.14	1727089.09	14543858.63	40°02'47.814"N	104°41'25.086"W	0.79	
12087.00	89.940	175.130	7125.08	4853.21	-4848.17	-954.85	1727096.69	14543769.99	40°02'46.937"N	104°41'24.992"W	0.44	
12176.00	90.120	175.070	7125.03	4941.85	-4936.84	-947.24	1727104.60	14543681.38	40°02'46.061"N	104°41'24.894"W	0.21	
12266.00	90.090	176.060	7124.87	5031.54	-5026.57	-940.28	1727111.87	14543591.71	40°02'45.174"N	104°41'24.804"W	1.10	
12355.00	89.970	177.880	7124.82	5120.38	-5115.44	-935.58	1727116.88	14543502.89	40°02'44.296"N	104°41'24.744"W	2.05	
12445.00	89.880	179.040	7124.94	5210.33	-5205.41	-933.16	1727119.62	14543412.97	40°02'43.407"N	104°41'24.713"W	1.29	
12534.00	89.420	179.740	7125.48	5299.32	-5294.40	-932.21	1727120.88	14543324.01	40°02'42.527"N	104°41'24.700"W	0.94	
12623.00	89.450	180.040	7126.36	5388.31	-5383.40	-932.04	1727121.36	14543235.05	40°02'41.648"N	104°41'24.698"W	0.34	
12713.00	89.260	179.820	7127.37	5478.31	-5473.39	-931.93	1727121.79	14543145.10	40°02'40.758"N	104°41'24.697"W	0.32	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 ENGLISH FARMS 8-8HZ (338°FSL & 2345°FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-8HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (266 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
12802.00	89.420	179.580	7128.40	5567.30	-5562.38	-931.47	1727122.57	14543056.14	40°02'39.879"N	104°41'24.691"W	0.32	
12892.00	89.420	179.640	7129.31	5657.28	-5652.38	-930.85	1727123.50	14542966.19	40°02'38.990"N	104°41'24.683"W	0.07	
12982.00	89.200	180.180	7130.39	5747.27	-5742.37	-930.71	1727123.95	14542876.23	40°02'38.100"N	104°41'24.681"W	0.65	
13071.00	89.320	180.980	7131.54	5836.27	-5831.36	-931.61	1727123.37	14542787.27	40°02'37.221"N	104°41'24.692"W	0.91	
13161.00	89.230	181.280	7132.68	5926.25	-5921.33	-933.39	1727121.91	14542697.33	40°02'36.332"N	104°41'24.715"W	0.35	
13250.00	89.320	181.800	7133.81	6015.22	-6010.29	-935.78	1727119.83	14542608.39	40°02'35.453"N	104°41'24.746"W	0.59	
13340.00	89.230	182.440	7134.95	6105.17	-6100.22	-939.11	1727116.82	14542518.49	40°02'34.564"N	104°41'24.789"W	0.72	
13429.00	89.230	183.500	7136.14	6194.06	-6189.10	-943.72	1727112.52	14542429.64	40°02'33.686"N	104°41'24.848"W	1.19	
13519.00	89.170	183.670	7137.40	6283.91	-6278.91	-949.35	1727107.21	14542339.84	40°02'32.798"N	104°41'24.920"W	0.20	
13608.00	89.320	182.780	7138.57	6372.78	-6367.76	-954.35	1727102.52	14542251.01	40°02'31.920"N	104°41'24.985"W	1.01	
13698.00	89.450	181.980	7139.54	6462.72	-6457.68	-958.09	1727099.10	14542161.11	40°02'31.032"N	104°41'25.033"W	0.90	
13788.00	89.260	181.470	7140.55	6552.68	-6547.63	-960.80	1727096.71	14542071.18	40°02'30.143"N	104°41'25.067"W	0.60	
13877.00	89.450	181.840	7141.55	6641.65	-6636.59	-963.37	1727094.45	14541982.25	40°02'29.263"N	104°41'25.100"W	0.47	
13967.00	89.350	180.470	7142.50	6731.64	-6726.56	-965.18	1727092.96	14541892.31	40°02'28.374"N	104°41'25.124"W	1.53	
14056.00	89.320	179.240	7143.53	6820.63	-6815.55	-964.96	1727093.49	14541803.35	40°02'27.495"N	104°41'25.121"W	1.38	
14146.00	89.350	180.260	7144.57	6910.61	-6905.55	-964.57	1727094.20	14541713.40	40°02'26.606"N	104°41'25.116"W	1.13	
14235.00	89.230	179.890	7145.68	6999.61	-6994.54	-964.68	1727094.40	14541624.44	40°02'25.726"N	104°41'25.117"W	0.44	
14325.00	89.200	180.390	7146.91	7089.60	-7084.53	-964.90	1727094.50	14541534.49	40°02'24.837"N	104°41'25.120"W	0.56	
14415.00	89.420	178.690	7147.99	7179.58	-7174.52	-964.18	1727095.54	14541444.54	40°02'23.948"N	104°41'25.111"W	1.90	
14504.00	89.260	180.880	7149.02	7268.57	-7263.50	-963.85	1727096.18	14541355.59	40°02'23.068"N	104°41'25.106"W	2.47	
14594.00	89.380	180.600	7150.09	7358.56	-7353.49	-965.01	1727095.34	14541265.63	40°02'22.179"N	104°41'25.101"W	0.34	
14684.00	89.380	180.400	7151.06	7448.55	-7443.48	-965.79	1727094.87	14541175.67	40°02'21.290"N	104°41'25.131"W	0.22	
14773.00	89.510	181.440	7151.92	7537.54	-7532.47	-967.22	1727093.75	14541086.72	40°02'20.410"N	104°41'25.149"W	1.18	
14863.00	89.080	181.530	7153.03	7627.51	-7622.43	-969.55	1727091.74	14540996.79	40°02'19.521"N	104°41'25.179"W	0.49	
14953.00	89.200	181.810	7154.38	7717.48	-7712.38	-972.18	1727089.43	14540906.86	40°02'18.632"N	104°41'25.213"W	0.34	
15042.00	89.350	181.830	7155.51	7806.44	-7801.33	-975.00	1727086.92	14540817.94	40°02'17.753"N	104°41'25.249"W	0.17	
15132.00	89.320	182.470	7156.55	7896.39	-7891.26	-978.38	1727083.86	14540728.03	40°02'16.865"N	104°41'25.293"W	0.71	
15221.00	89.510	183.410	7157.46	7985.29	-7980.13	-982.94	1727079.61	14540639.17	40°02'15.986"N	104°41'25.351"W	1.08	
15310.00	89.320	182.760	7158.37	8074.18	-8069.00	-987.73	1727075.14	14540550.33	40°02'15.108"N	104°41'25.413"W	0.76	
15400.00	89.230	181.710	7159.51	8164.12	-8158.92	-991.24	1727071.94	14540460.43	40°02'14.219"N	104°41'25.458"W	1.17	
15489.00	89.170	181.160	7160.75	8253.09	-8247.89	-993.47	1727070.03	14540371.49	40°02'13.340"N	104°41'25.487"W	0.62	
15579.00	89.200	180.290	7162.03	8343.08	-8337.87	-994.61	1727069.21	14540281.54	40°02'12.451"N	104°41'25.501"W	0.97	
15668.00	89.450	178.130	7163.08	8432.05	-8426.85	-993.38	1727070.75	14540192.60	40°02'11.572"N	104°41'25.485"W	2.44	
15758.00	89.480	180.730	7163.92	8522.03	-8516.83	-992.49	1727071.96	14540102.66	40°02'10.682"N	104°41'25.474"W	2.89	
15847.00	89.140	179.570	7164.99	8611.02	-8605.83	-992.72	1727072.04	14540013.70	40°02'09.803"N	104°41'25.477"W	1.36	
15937.00	90.060	179.370	7165.62	8701.01	-8695.82	-991.89	1727073.19	14539923.75	40°02'08.914"N	104°41'25.466"W	1.05	
16026.00	89.690	179.040	7165.81	8789.99	-8784.81	-990.65	1727074.73	14539834.79	40°02'08.034"N	104°41'25.450"W	0.56	
16116.00	89.970	178.190	7166.08	8879.95	-8874.78	-988.48	1727077.22	14539744.87	40°02'07.145"N	104°41'25.422"W	0.99	
16205.00	89.750	178.340	7166.30	8968.89	-8963.74	-985.78	1727080.23	14539655.95	40°02'06.266"N	104°41'25.387"W	0.30	
16294.00	89.880	178.240	7166.59	9057.84	-9052.70	-983.13	1727083.20	14539567.04	40°02'05.387"N	104°41'25.353"W	0.18	
16384.00	89.910	177.550	7166.75	9147.76	-9142.64	-979.82	1727086.82	14539477.15	40°02'04.498"N	104°41'25.311"W	0.77	
16473.00	89.970	177.470	7166.84	9236.65	-9231.55	-975.96	1727091.00	14539388.28	40°02'03.619"N	104°41'25.261"W	0.11	
16563.00	90.060	177.980	7166.82	9326.56	-9321.48	-972.38	1727094.88	14539298.40	40°02'02.731"N	104°41'25.215"W	0.58	
16652.00	89.850	178.410	7166.89	9415.50	-9410.44	-969.58	1727098.00	14539209.49	40°02'01.852"N	104°41'25.179"W	0.54	
16742.00	89.910	177.750	7167.08	9505.43	-9500.39	-966.56	1727101.33	14539119.59	40°02'00.963"N	104°41'25.140"W	0.74	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 ENGLISH FARMS 8-8HZ (338°FSL & 2345°FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-8HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (266 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
16831.00	89.850	178.580	7167.27	9594.37	-9589.34	-963.71	1727104.49	14539030.68	40°02'00.084"N	104°41'25.103"W	0.94	
16921.00	90.090	179.350	7167.31	9684.34	-9679.33	-962.09	1727106.43	14538940.74	40°01'59.194"N	104°41'25.082"W	0.90	
17010.00	90.060	179.590	7167.20	9773.33	-9768.32	-961.27	1727107.57	14538851.78	40°01'58.315"N	104°41'25.072"W	0.27	
17100.00	90.120	180.430	7167.06	9863.33	-9858.32	-961.28	1727107.87	14538761.81	40°01'57.425"N	104°41'25.072"W	0.94	
17189.00	90.060	180.890	7166.92	9952.33	-9947.31	-962.31	1727107.16	14538672.85	40°01'56.546"N	104°41'25.085"W	0.52	
17279.00	89.910	180.680	7166.94	10042.32	-10037.31	-963.54	1727106.24	14538582.89	40°01'55.657"N	104°41'25.101"W	0.29	
17368.00	89.910	180.590	7167.08	10131.32	-10126.30	-964.53	1727105.57	14538493.93	40°01'54.777"N	104°41'25.113"W	0.10	
17457.00	89.880	180.410	7167.24	10220.32	-10215.30	-965.30	1727105.10	14538404.97	40°01'53.898"N	104°41'25.123"W	0.21	
17547.00	90.090	179.980	7167.27	10310.32	-10305.30	-965.61	1727105.11	14538315.00	40°01'53.008"N	104°41'25.127"W	0.53	
17636.00	89.970	180.210	7167.22	10399.32	-10394.30	-965.76	1727105.28	14538226.04	40°01'52.129"N	104°41'25.129"W	0.29	
17725.00	90.060	181.640	7167.20	10488.31	-10483.28	-967.19	1727104.16	14538137.08	40°01'51.249"N	104°41'25.148"W	1.61	
17815.00	90.120	181.920	7167.05	10578.28	-10573.24	-969.99	1727101.68	14538047.15	40°01'50.360"N	104°41'25.183"W	0.32	
17904.00	90.180	182.200	7166.82	10667.24	-10662.18	-973.19	1727098.79	14537958.23	40°01'49.482"N	104°41'25.225"W	0.32	
17993.00	90.030	182.410	7166.66	10756.19	-10751.11	-976.77	1727095.53	14537869.33	40°01'48.603"N	104°41'25.270"W	0.29	
18083.00	90.430	183.090	7166.30	10846.10	-10841.00	-981.09	1727091.53	14537779.46	40°01'47.714"N	104°41'25.326"W	0.88	
18172.00	90.460	183.030	7165.61	10935.00	-10929.87	-985.84	1727087.09	14537690.60	40°01'46.836"N	104°41'25.387"W	0.08	
18262.00	90.370	183.010	7164.95	11024.90	-11019.75	-990.58	1727082.67	14537600.75	40°01'45.948"N	104°41'25.448"W	0.10	
18352.00	90.490	183.050	7164.28	11114.79	-11109.62	-995.33	1727078.23	14537510.90	40°01'45.060"N	104°41'25.509"W	0.14	
18442.00	90.250	183.310	7163.70	11204.68	-11199.48	-1000.33	1727073.55	14537421.06	40°01'44.172"N	104°41'25.573"W	0.39	
18531.00	90.400	182.690	7163.19	11293.58	-11288.35	-1004.99	1727069.21	14537332.20	40°01'43.293"N	104°41'25.633"W	0.72	
18621.00	90.150	183.240	7162.76	11383.48	-11378.23	-1009.64	1727064.87	14537242.34	40°01'42.405"N	104°41'25.693"W	0.67	
18711.00	89.880	182.770	7162.74	11473.38	-11468.11	-1014.36	1727060.47	14537152.48	40°01'41.517"N	104°41'25.753"W	0.60	
18800.00	89.850	182.750	7162.95	11562.30	-11557.00	-1018.64	1727056.50	14537063.61	40°01'40.639"N	104°41'25.808"W	0.04	
18890.00	89.850	181.910	7163.18	11652.24	-11646.93	-1022.30	1727053.16	14536973.71	40°01'39.750"N	104°41'25.855"W	0.93	
18979.00	89.820	181.410	7163.44	11741.21	-11735.89	-1024.88	1727050.90	14536884.77	40°01'38.871"N	104°41'25.888"W	0.56	
19053.00†	89.945	180.712	7163.59	11815.21	-11809.88	-1026.25	1727049.79	14536810.81	40°01'38.140"N	104°41'25.906"W	0.96	CROSS SETBACK TOE (866°FNL & 1903°FWL, SEC.29) 40.0272610 -104.6905295
19068.00	89.970	180.570	7163.60	11830.21	-11824.88	-1026.42	1727049.67	14536795.82	40°01'37.991"N	104°41'25.908"W	0.96	
19158.00	90.030	180.430	7163.60	11920.21	-11914.87	-1027.20	1727049.20	14536705.85	40°01'37.102"N	104°41'25.918"W	0.17	
19248.00	89.910	178.850	7163.65	12010.20	-12004.87	-1026.64	1727050.08	14536615.89	40°01'36.213"N	104°41'25.911"W	1.76	
19337.00	89.910	178.450	7163.79	12099.16	-12093.84	-1024.54	1727052.49	14536526.96	40°01'35.333"N	104°41'25.884"W	0.45	
19427.00	90.000	177.670	7163.86	12189.09	-12183.79	-1021.50	1727055.86	14536437.06	40°01'34.445"N	104°41'25.845"W	0.87	
19517.00	89.940	177.880	7163.91	12279.00	-12273.72	-1018.00	1727059.66	14536347.18	40°01'33.556"N	104°41'25.800"W	0.24	
19606.00	89.970	178.360	7163.98	12367.94	-12362.67	-1015.08	1727062.90	14536258.27	40°01'32.677"N	104°41'25.762"W	0.54	
19696.00	89.850	179.480	7164.12	12457.91	-12452.66	-1013.38	1727064.91	14536168.33	40°01'31.788"N	104°41'25.740"W	1.25	
19786.00	89.850	180.230	7164.35	12547.90	-12542.66	-1013.16	1727065.45	14536078.37	40°01'30.898"N	104°41'25.737"W	0.83	
19875.00	89.970	180.730	7164.49	12636.90	-12631.65	-1013.90	1727065.02	14535989.41	40°01'30.019"N	104°41'25.747"W	0.58	
19965.00	89.940	180.260	7164.56	12726.90	-12721.65	-1014.68	1727064.56	14535899.44	40°01'29.129"N	104°41'25.757"W	0.52	
20055.00	90.030	179.790	7164.59	12816.90	-12811.65	-1014.72	1727064.84	14535809.48	40°01'28.240"N	104°41'25.757"W	0.53	
20234.00	89.940	178.470	7164.63	12995.86	-12990.62	-1012.00	1727068.18	14535630.58	40°01'26.471"N	104°41'25.722"W	0.74	
20323.00	90.220	177.690	7164.51	13084.79	-13079.57	-1009.02	1727071.47	14535541.68	40°01'25.592"N	104°41'25.684"W	0.93	LAST BHGE MWD+IFR1+MSA SURVEY
20364.00	90.220	177.690	7164.35	13125.75	-13120.54	-1007.37	1727073.27	14535500.74	40°01'25.187"N	104°41'25.663"W	0.00	PTB (2177°FNL & 1924°FWL, SEC.29) 40.0236631 -104.6904618

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 ENGLISH FARMS 8-8HZ (338°FSL & 2345°FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-8HZ AWB
Facility	SEC.08-T1N-R65W		

HOLE & CASING SECTIONS - Ref Wellbore: ENGLISH FARMS 8-8HZ AWB Ref Wellpath: ENGLISH FARMS 8-8HZ 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	1826.34	0.00	0.00	84.68	-349.17

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	184.09	-2511.17	1725523.29	14548794.77	40°03'36.666"N	104°41'45.010"W	polygon
SEC.20-T1N-R65W	-34.00	184.09	-2511.17	1725523.29	14548794.77	40°03'36.666"N	104°41'45.010"W	polygon
ENGLISH FARMS 8-8HZ HEEL REV-1(50°FNL & 1915°FNL,SEC.17)	7106.00	-386.49	-934.11	1727101.73	14548229.95	40°03'31.028"N	104°41'24.727"W	point
ENGLISH FARMS 8-8HZ INT. TARGET@3600°VS	7106.00	-3594.95	-951.30	1727095.82	14545022.72	40°02'59.322"N	104°41'24.947"W	point
ENGLISH FARMS 8-8HZ HEEL REV-2(50°FNL & 1915°FNL,SEC.17)	7131.00	-386.50	-934.11	1727101.73	14548229.95	40°03'31.028"N	104°41'24.727"W	point
ENGLISH FARMS 8-8HZ BHL REV-2(2177°FNL & 1929°FNL,SEC.29)	7161.00	-13121.32	-1002.38	1727078.26	14535499.97	40°01'25.180"N	104°41'25.598"W	point
ENGLISH FARMS 8-8HZ INT. TARGET@8750°VS	7161.00	-8744.88	-978.91	1727086.33	14539874.75	40°02'08.429"N	104°41'25.299"W	point
ENGLISH FARMS 8-8HZ BHL REV-1(2177°FNL & 1929°FNL,SEC.29)	7171.00	-13121.32	-1002.38	1727078.26	14535499.97	40°01'25.180"N	104°41'25.598"W	point
ENGLISH FARMS 8-8HZ LANDBOX	7171.00	0.00	0.00	1728034.10	14548619.58	40°03'34.848"N	104°41'12.714"W	polygon
ENGLISH FARMS 8-8HZ SETBACK 1	7171.00	0.00	0.00	1728034.10	14548619.58	40°03'34.848"N	104°41'12.714"W	polygon
ENGLISH FARMS 8-8HZ SETBACK 2	7171.00	0.00	0.00	1728034.10	14548619.58	40°03'34.848"N	104°41'12.714"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: ENGLISH FARMS 8-8HZ AWB Ref Wellpath: ENGLISH FARMS 8-8HZ AWP			
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
26.00	1842.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <134 - 1842>
1842.00	20323.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1890 - 20323>
20323.00	20364.00	Blind Drilling (std)	Projection to bit

Wellbore
ENGLISH FARMS 8-8HZ AWB
ENGLISH FARMS 8-8HZ AWB
ENGLISH FARMS 8-8HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 ENGLISH FARMS 8-8HZ (338'FSL & 2345'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 8-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 8-8HZ AWB
Facility	SEC.08-T1N-R65W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
134.00	0.350	157.290	134.00	FIRST SURFACE MWD+IFR1 SURVEY
1842.00	17.930	285.780	1793.95	LAST SURFACE MWD+IFR1 SURVEY
1890.00	17.330	284.110	1839.70	FIRST BHGE MWD+IFR1+MSA SURVEY
3119.00	18.064	283.951	3008.87	ENTER LANDBOX (543'FSL & 2136'FWL,SEC.08) 40.0602439 -104.6894075
6604.00	1.653	177.979	6466.98	KOP
7634.00	88.530	180.320	7131.38	LANDING (61'FNL & 1920'FWL,SEC.17) 40.0585841 -104.6901838
8032.00	90.530	180.641	7129.08	CROSS SETBACK HEEL (459'FNL & 1909'FWL,SEC.17) 40.0574920 -104.6902190
19053.00	89.945	180.712	7163.59	CROSS SETBACK TOE (866'FNL & 1903'FWL,SEC.29) 40.0272610 -104.6905295
20323.00	90.220	177.690	7164.51	LAST BHGE MWD+IFR1+MSA SURVEY
20364.00	90.220	177.690	7164.35	PTB (2177'FNL & 1924'FWL,SEC.29) 40.0236631 -104.6904618