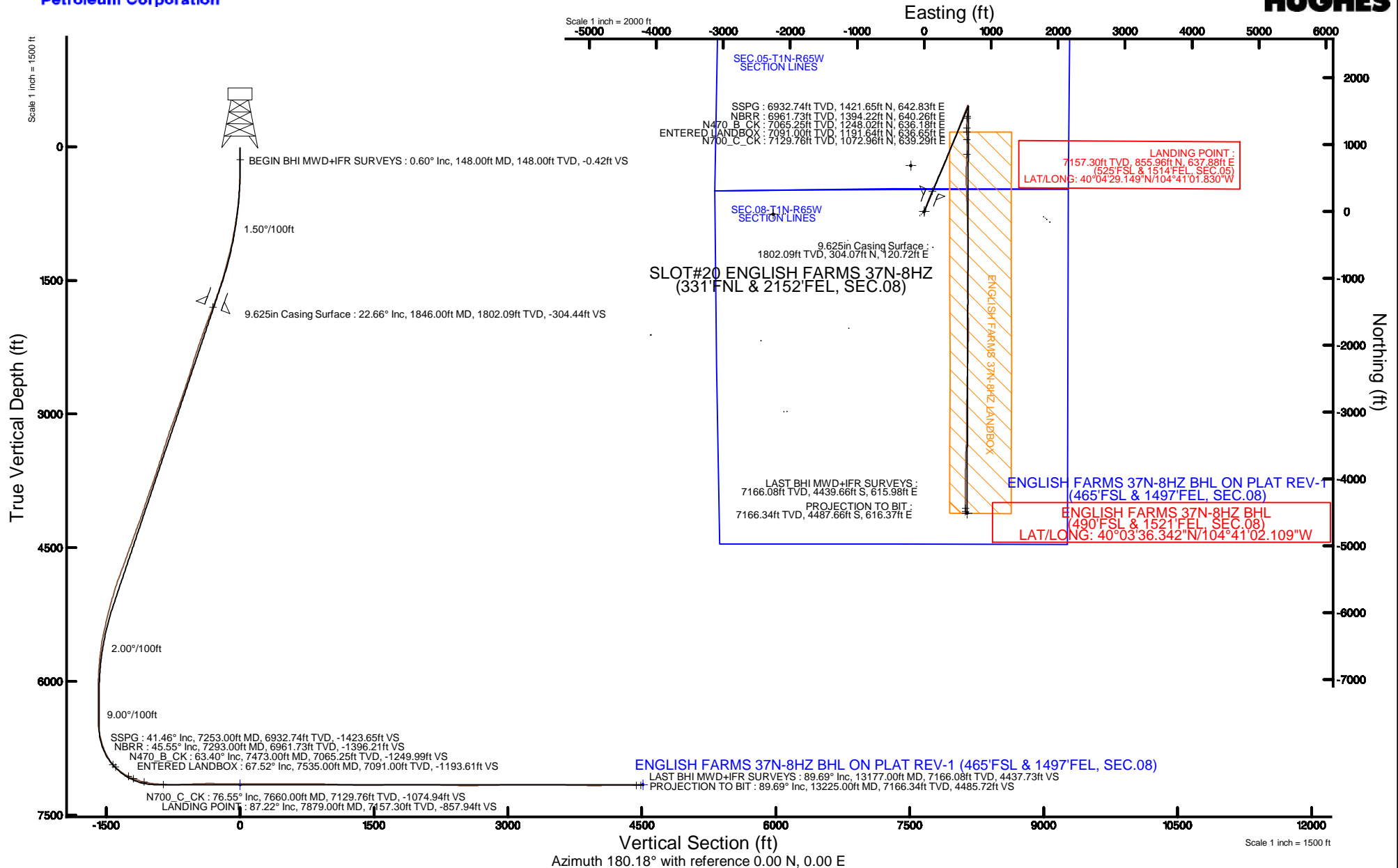


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#20 ENGLISH FARMS 37N-8HZ (331'FNL & 2152'FEL, SEC.08)
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: ENGLISH FARMS 37N-8HZ
 Facility: SEC.08-T1N-R65W Wellbore: ENGLISH FARMS 37N-8HZ PWB

Plot reference wellpath is ENGLISH FARMS 37N-8HZ (REV-A.0) PWP

True vertical depths are referenced to XTREME 24 (16'KB) (RKB)	Grid System: NAD83 / UTM Zone 13 North, US feet
Measured depths are referenced to XTREME 24 (16'KB) (RKB)	North Reference: True north
XTREME 24 (16'KB) (RKB) to Mean Sea Level: 4964 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#20 ENGLISH FARMS 37N-8HZ (331'FNL & 2152'FEL, SEC.08)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: amarcar on 09/Jul/2015





Actual Wellpath Report

ENGLISH FARMS 37N-8HZ AWP
Page 1 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#20 ENGLISH FARMS 37N-8HZ (331'FNL & 2152'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 37N-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 37N-8HZ AWP <13225>
Facility	SEC.08-T1N-R65W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Amarcar
Scale	0.999609	Report Generated	09/Jul/2015 at 13:12
Convergence at slot	0.20° East	Database/Source file	KERR MCGEE UTM/ENGLISH_FARMS_37N-8HZ_AWP__13225_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	424.04	-1494.80	1728225.90	14553257.30	40°04'20.690"N	104°41'10.036"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	XTREME 24 (16'KB) (RKB) to Facility Vertical Datum	4964.00ft
Horizontal Reference Pt	Slot	XTREME 24 (16'KB) (RKB) to Mean Sea Level	4964.00ft
Vertical Reference Pt	XTREME 24 (16'KB) (RKB)	XTREME 24 (16'KB) (RKB) to Mud Line at Slot (SLOT#20 ENGLISH FARMS 37N-8HZ (331'FNL & 2152'FEL, SEC.08))	4964.00ft
MD Reference Pt	XTREME 24 (16'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	180.18°



Actual Wellpath Report

ENGLISH FARMS 37N-8HZ AWP
Page 2 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#20 ENGLISH FARMS 37N-8HZ (331'FNL & 2152'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 37N-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 37N-8HZ AWB <13225>
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (149 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	52.510	0.00	0.00	0.00	0.00	40°04'20.690"N	104°41'10.036"W	0.00	
16.00	0.000	52.510	16.00	0.00	0.00	0.00	40°04'20.690"N	104°41'10.036"W	0.00	
148.00	0.600	52.510	148.00	-0.42	0.42	0.55	40°04'20.694"N	104°41'10.029"W	0.45	BEGIN BHI MWD+IFR SURVEYS
242.00	0.570	42.580	241.99	-1.07	1.06	1.26	40°04'20.701"N	104°41'10.020"W	0.11	
337.00	1.760	30.620	336.97	-2.68	2.67	2.32	40°04'20.716"N	104°41'10.006"W	1.27	
432.00	2.510	23.990	431.90	-5.84	5.82	3.91	40°04'20.748"N	104°41'09.986"W	0.83	
526.00	4.060	22.830	525.75	-10.79	10.77	6.04	40°04'20.796"N	104°41'09.958"W	1.65	
621.00	5.950	19.740	620.38	-18.53	18.51	9.00	40°04'20.873"N	104°41'09.920"W	2.01	
716.00	7.780	20.910	714.70	-29.19	29.15	12.96	40°04'20.978"N	104°41'09.869"W	1.93	
811.00	9.640	19.940	808.60	-42.69	42.63	17.97	40°04'21.111"N	104°41'09.805"W	1.96	
905.00	10.310	20.320	901.18	-57.99	57.92	23.57	40°04'21.262"N	104°41'09.733"W	0.72	
1000.00	10.670	20.690	994.59	-74.21	74.12	29.63	40°04'21.422"N	104°41'09.655"W	0.39	
1095.00	12.240	19.230	1087.69	-91.97	91.86	36.06	40°04'21.598"N	104°41'09.572"W	1.68	
1190.00	14.470	19.380	1180.12	-112.70	112.57	43.31	40°04'21.802"N	104°41'09.479"W	2.35	
1284.00	15.690	21.830	1270.88	-135.60	135.44	51.94	40°04'22.028"N	104°41'09.368"W	1.46	
1379.00	16.080	21.020	1362.25	-159.84	159.65	61.43	40°04'22.268"N	104°41'09.246"W	0.47	
1474.00	17.690	19.290	1453.15	-185.78	185.56	70.92	40°04'22.524"N	104°41'09.124"W	1.78	
1569.00	18.880	21.940	1543.36	-213.69	213.44	81.43	40°04'22.799"N	104°41'08.988"W	1.53	
1663.00	20.320	23.990	1631.91	-242.75	242.46	93.75	40°04'23.086"N	104°41'08.830"W	1.70	
1758.00	21.550	23.700	1720.64	-273.84	273.51	107.47	40°04'23.393"N	104°41'08.654"W	1.30	
1803.00	22.390	23.460	1762.37	-289.29	288.94	114.21	40°04'23.545"N	104°41'08.567"W	1.88	
1858.00	22.740	23.030	1813.16	-308.71	308.33	122.54	40°04'23.737"N	104°41'08.460"W	0.70	
1953.00	22.410	21.570	1900.88	-342.49	342.07	136.38	40°04'24.070"N	104°41'08.282"W	0.68	
2048.00	22.110	24.660	1988.80	-375.62	375.16	150.49	40°04'24.397"N	104°41'08.100"W	1.27	
2143.00	21.430	24.160	2077.03	-407.75	407.24	165.06	40°04'24.714"N	104°41'07.913"W	0.74	
2238.00	20.830	23.710	2165.64	-439.09	438.54	178.95	40°04'25.024"N	104°41'07.734"W	0.65	
2332.00	20.330	22.620	2253.64	-469.51	468.91	191.95	40°04'25.324"N	104°41'07.567"W	0.67	
2427.00	19.220	22.410	2343.04	-499.24	498.60	204.26	40°04'25.617"N	104°41'07.408"W	1.17	
2522.00	18.350	26.160	2432.98	-527.15	526.48	216.82	40°04'25.893"N	104°41'07.247"W	1.57	
2617.00	19.780	29.170	2522.77	-554.66	553.94	231.25	40°04'26.164"N	104°41'07.061"W	1.83	
2712.00	19.700	24.650	2612.19	-583.29	582.53	245.76	40°04'26.447"N	104°41'06.875"W	1.61	
2807.00	19.940	25.670	2701.56	-612.49	611.69	259.45	40°04'26.735"N	104°41'06.698"W	0.44	
2902.00	20.770	23.770	2790.63	-642.55	641.70	273.26	40°04'27.031"N	104°41'06.521"W	1.12	
2996.00	21.020	23.670	2878.45	-673.29	672.40	286.75	40°04'27.335"N	104°41'06.347"W	0.27	
3091.00	21.500	23.740	2966.98	-704.87	703.94	300.60	40°04'27.646"N	104°41'06.169"W	0.51	
3186.00	21.670	22.650	3055.32	-737.03	736.06	314.36	40°04'27.964"N	104°41'05.992"W	0.46	
3281.00	21.290	21.580	3143.72	-769.30	768.29	327.46	40°04'28.282"N	104°41'05.824"W	0.57	
3375.00	19.490	20.420	3231.83	-799.90	798.85	339.21	40°04'28.584"N	104°41'05.673"W	1.96	
3470.00	18.410	19.990	3321.68	-828.89	827.80	349.86	40°04'28.870"N	104°41'05.535"W	1.15	
3565.00	19.550	23.560	3411.52	-857.59	856.47	361.35	40°04'29.154"N	104°41'05.388"W	1.71	
3660.00	19.170	19.470	3501.15	-886.90	885.75	372.90	40°04'29.443"N	104°41'05.239"W	1.48	
3755.00	18.830	17.220	3590.97	-916.28	915.10	382.64	40°04'29.733"N	104°41'05.114"W	0.85	
3850.00	18.770	19.830	3680.91	-945.34	944.12	392.36	40°04'30.020"N	104°41'04.989"W	0.89	
3945.00	22.200	24.950	3769.89	-976.04	974.78	405.12	40°04'30.323"N	104°41'04.825"W	4.07	
4040.00	20.660	20.990	3858.33	-1008.00	1006.71	418.70	40°04'30.638"N	104°41'04.650"W	2.22	



Actual Wellpath Report

ENGLISH FARMS 37N-8HZ AWP
Page 3 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#20 ENGLISH FARMS 37N-8HZ (331'FNL & 2152'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 37N-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 37N-8HZ AWP <13225>
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (149 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4134.00	19.900	21.620	3946.50	-1038.40	1037.06	430.53	40°04'30.938"N	104°41'04.498"W	0.84	
4229.00	19.930	25.120	4035.82	-1068.13	1066.75	443.36	40°04'31.232"N	104°41'04.333"W	1.26	
4324.00	20.110	25.630	4125.08	-1097.55	1096.14	457.30	40°04'31.522"N	104°41'04.153"W	0.26	
4419.00	22.740	22.910	4213.51	-1129.24	1127.78	471.52	40°04'31.835"N	104°41'03.971"W	2.96	
4513.00	21.480	21.330	4300.60	-1162.05	1160.55	484.85	40°04'32.159"N	104°41'03.799"W	1.48	
4608.00	20.040	22.240	4389.43	-1193.36	1191.82	497.34	40°04'32.468"N	104°41'03.638"W	1.55	
4704.00	21.970	19.350	4479.05	-1225.57	1223.99	509.51	40°04'32.786"N	104°41'03.482"W	2.28	
4798.00	20.650	18.000	4566.62	-1257.96	1256.35	520.46	40°04'33.105"N	104°41'03.341"W	1.50	
4893.00	20.910	20.420	4655.44	-1289.81	1288.17	531.55	40°04'33.420"N	104°41'03.198"W	0.94	
4988.00	22.300	21.850	4743.76	-1322.47	1320.79	544.18	40°04'33.742"N	104°41'03.036"W	1.56	
5083.00	21.790	20.890	4831.82	-1355.71	1353.99	557.17	40°04'34.070"N	104°41'02.869"W	0.66	
5177.00	18.820	21.630	4919.97	-1386.15	1384.39	568.99	40°04'34.371"N	104°41'02.717"W	3.17	
5272.00	18.010	23.420	5010.10	-1413.91	1412.11	580.47	40°04'34.645"N	104°41'02.569"W	1.04	
5367.00	16.400	20.430	5100.85	-1439.99	1438.16	590.99	40°04'34.902"N	104°41'02.433"W	1.93	
5462.00	14.510	17.130	5192.41	-1463.96	1462.10	599.18	40°04'35.139"N	104°41'02.328"W	2.19	
5557.00	16.080	25.510	5284.06	-1487.24	1485.35	608.35	40°04'35.368"N	104°41'02.210"W	2.85	
5651.00	13.910	22.790	5374.85	-1509.44	1507.52	618.34	40°04'35.588"N	104°41'02.082"W	2.43	
5746.00	12.630	24.320	5467.31	-1529.45	1527.51	627.04	40°04'35.785"N	104°41'01.970"W	1.40	
5841.00	10.680	19.690	5560.35	-1547.23	1545.27	634.28	40°04'35.961"N	104°41'01.877"W	2.27	
5935.00	7.530	23.500	5653.16	-1561.10	1559.12	639.67	40°04'36.097"N	104°41'01.807"W	3.41	
6030.00	5.760	16.710	5747.52	-1571.39	1569.40	643.53	40°04'36.199"N	104°41'01.758"W	2.04	
6125.00	4.500	29.320	5842.14	-1579.21	1577.21	646.72	40°04'36.276"N	104°41'01.717"W	1.77	
6220.00	3.280	3.830	5936.92	-1585.18	1583.17	648.73	40°04'36.335"N	104°41'01.691"W	2.20	
6315.00	1.000	63.420	6031.86	-1588.27	1586.26	649.65	40°04'36.366"N	104°41'01.679"W	3.06	
6410.00	0.530	63.970	6126.85	-1588.84	1586.82	650.79	40°04'36.371"N	104°41'01.664"W	0.49	
6504.00	0.460	55.840	6220.85	-1589.24	1587.22	651.49	40°04'36.375"N	104°41'01.655"W	0.11	
6599.00	0.510	47.790	6315.84	-1589.74	1587.72	652.12	40°04'36.380"N	104°41'01.647"W	0.09	
6694.00	0.590	28.860	6410.84	-1590.45	1588.43	652.67	40°04'36.387"N	104°41'01.640"W	0.21	
6789.00	5.620	179.930	6505.70	-1586.23	1584.21	652.91	40°04'36.345"N	104°41'01.637"W	6.47	
6883.00	11.550	186.780	6598.61	-1572.26	1570.25	651.81	40°04'36.207"N	104°41'01.651"W	6.39	
6979.00	17.180	182.200	6691.57	-1548.53	1546.52	650.13	40°04'35.973"N	104°41'01.673"W	5.98	
7073.00	21.990	177.660	6780.11	-1517.05	1515.04	650.31	40°04'35.662"N	104°41'01.670"W	5.36	
7168.00	31.990	186.340	6864.69	-1474.14	1472.13	648.25	40°04'35.238"N	104°41'01.697"W	11.29	
7253.00†	41.456	185.956	6932.74	-1423.65	1421.65	642.83	40°04'34.739"N	104°41'01.767"W	11.14	SSPG
7263.00	42.570	185.920	6940.17	-1416.99	1415.00	642.14	40°04'34.673"N	104°41'01.776"W	11.14	
7293.00†	45.548	184.485	6961.73	-1396.21	1394.22	640.26	40°04'34.468"N	104°41'01.800"W	10.47	NBRR
7357.00	51.950	181.860	7003.91	-1348.19	1346.21	637.65	40°04'33.993"N	104°41'01.833"W	10.47	
7452.00	62.000	180.290	7055.62	-1268.65	1266.68	636.22	40°04'33.207"N	104°41'01.852"W	10.67	
7473.00†	63.396	179.972	7065.25	-1249.99	1248.02	636.18	40°04'33.023"N	104°41'01.852"W	6.78	N470_B_CK
7547.00	68.320	178.910	7095.51	-1182.49	1180.52	636.85	40°04'32.356"N	104°41'01.844"W	6.78	
7641.00	74.980	178.500	7125.09	-1093.35	1091.37	638.87	40°04'31.475"N	104°41'01.818"W	7.10	
7660.00†	76.549	178.860	7129.76	-1074.94	1072.96	639.29	40°04'31.293"N	104°41'01.812"W	8.46	N700_C_CK
7736.00	82.830	180.260	7143.36	-1000.21	998.23	639.86	40°04'30.555"N	104°41'01.805"W	8.46	
7831.00	84.500	180.920	7153.84	-905.80	903.82	638.89	40°04'29.622"N	104°41'01.818"W	1.89	
7835.00†	84.726	180.967	7154.21	-901.82	899.84	638.82	40°04'29.582"N	104°41'01.818"W	5.78	ENTERED LANDBOX



Actual Wellpath Report

ENGLISH FARMS 37N-8HZ AWP
Page 4 of 6



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#20 ENGLISH FARMS 37N-8HZ (331'FNL & 2152'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 37N-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 37N-8HZ AWB <13225>
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (149 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7879.00†	87.218	181.477	7157.30	-857.94	855.96	637.88	40°04'29.149"N	104°41'01.830"W	5.78	LANDING POINT
7926.00	89.880	182.020	7158.49	-810.97	809.00	636.45	40°04'28.685"N	104°41'01.849"W	5.78	
8020.00	90.520	182.930	7158.17	-717.05	715.09	632.39	40°04'27.757"N	104°41'01.901"W	1.18	
8115.00	92.100	181.440	7155.99	-622.14	620.19	628.77	40°04'26.819"N	104°41'01.948"W	2.29	
8210.00	92.530	179.430	7152.16	-527.22	525.27	628.05	40°04'25.881"N	104°41'01.957"W	2.16	
8305.00	91.790	178.790	7148.58	-432.31	430.35	629.52	40°04'24.943"N	104°41'01.938"W	1.03	
8400.00	89.780	178.880	7147.27	-337.35	335.39	631.45	40°04'24.004"N	104°41'01.913"W	2.12	
8494.00	88.860	177.900	7148.39	-243.40	241.43	634.10	40°04'23.076"N	104°41'01.879"W	1.43	
8589.00	89.750	178.610	7149.54	-148.46	146.49	636.99	40°04'22.138"N	104°41'01.842"W	1.20	
8684.00	89.910	177.550	7149.82	-53.53	51.54	640.17	40°04'21.199"N	104°41'01.801"W	1.13	
8779.00	89.850	178.710	7150.02	41.41	-43.41	643.27	40°04'20.261"N	104°41'01.761"W	1.22	
8874.00	91.170	178.880	7149.18	136.37	-138.38	645.27	40°04'19.322"N	104°41'01.736"W	1.40	
8968.00	90.060	178.130	7148.17	230.33	-232.34	647.72	40°04'18.394"N	104°41'01.704"W	1.43	
9063.00	90.000	177.870	7148.12	325.26	-327.28	651.04	40°04'17.456"N	104°41'01.662"W	0.28	
9158.00	90.090	179.480	7148.04	420.22	-422.25	653.23	40°04'16.517"N	104°41'01.633"W	1.70	
9253.00	89.660	180.400	7148.25	515.22	-517.25	653.33	40°04'15.578"N	104°41'01.632"W	1.07	
9347.00	89.320	180.150	7149.09	609.22	-611.25	652.88	40°04'14.649"N	104°41'01.638"W	0.45	
9442.00	90.220	179.690	7149.47	704.21	-706.25	653.01	40°04'13.711"N	104°41'01.636"W	1.06	
9537.00	88.920	180.940	7150.18	799.21	-801.24	652.49	40°04'12.772"N	104°41'01.643"W	1.90	
9632.00	89.540	182.340	7151.46	894.16	-896.19	649.77	40°04'11.834"N	104°41'01.678"W	1.61	
9726.00	87.720	180.120	7153.71	988.11	-990.13	647.76	40°04'10.905"N	104°41'01.704"W	3.05	
9821.00	87.940	180.130	7157.30	1083.04	-1085.06	647.55	40°04'09.967"N	104°41'01.707"W	0.23	
9916.00	88.210	179.400	7160.50	1177.99	-1180.00	647.94	40°04'09.029"N	104°41'01.702"W	0.82	
10011.00	89.040	178.940	7162.78	1272.94	-1274.97	649.31	40°04'08.090"N	104°41'01.684"W	1.00	
10105.00	89.410	178.590	7164.05	1366.91	-1368.94	651.34	40°04'07.162"N	104°41'01.658"W	0.54	
10200.00	90.220	178.010	7164.35	1461.85	-1463.89	654.16	40°04'06.223"N	104°41'01.622"W	1.05	
10294.00	90.890	179.300	7163.44	1555.81	-1557.86	656.36	40°04'05.295"N	104°41'01.594"W	1.55	
10389.00	91.260	177.770	7161.66	1650.75	-1652.81	658.79	40°04'04.357"N	104°41'01.562"W	1.66	
10484.00	89.720	181.140	7160.85	1745.73	-1747.78	659.69	40°04'03.418"N	104°41'01.551"W	3.90	
10579.00	89.820	180.750	7161.23	1840.72	-1842.77	658.13	40°04'02.479"N	104°41'01.571"W	0.42	
10674.00	90.710	180.720	7160.79	1935.71	-1937.76	656.91	40°04'01.541"N	104°41'01.587"W	0.94	
10768.00	91.570	180.170	7158.92	2029.69	-2031.74	656.18	40°04'00.612"N	104°41'01.596"W	1.09	
10863.00	88.120	181.620	7159.18	2124.67	-2126.71	654.70	40°03'59.673"N	104°41'01.615"W	3.94	
10957.00	88.430	181.750	7162.01	2218.59	-2220.63	651.93	40°03'58.745"N	104°41'01.651"W	0.36	
11052.00	88.340	181.920	7164.68	2313.51	-2315.54	648.89	40°03'57.807"N	104°41'01.690"W	0.20	
11147.00	88.980	182.110	7166.91	2408.44	-2410.45	645.55	40°03'56.869"N	104°41'01.733"W	0.70	
11242.00	89.570	181.700	7168.11	2503.39	-2505.39	642.40	40°03'55.931"N	104°41'01.774"W	0.76	
11336.00	90.280	180.870	7168.23	2597.37	-2599.37	640.29	40°03'55.002"N	104°41'01.801"W	1.16	
11431.00	91.050	180.620	7167.13	2692.35	-2694.35	639.05	40°03'54.064"N	104°41'01.817"W	0.85	
11526.00	90.950	181.340	7165.47	2787.33	-2789.32	637.43	40°03'53.125"N	104°41'01.838"W	0.77	
11621.00	91.940	181.330	7163.07	2882.28	-2884.27	635.22	40°03'52.187"N	104°41'01.866"W	1.04	
11716.00	90.150	179.740	7161.34	2977.26	-2979.24	634.33	40°03'51.248"N	104°41'01.877"W	2.52	
11811.00	90.400	178.780	7160.89	3072.24	-3074.23	635.56	40°03'50.310"N	104°41'01.862"W	1.04	
11906.00	89.660	180.510	7160.84	3167.23	-3169.22	636.14	40°03'49.371"N	104°41'01.854"W	1.98	
12000.00	90.800	180.370	7160.46	3261.23	-3263.22	635.42	40°03'48.442"N	104°41'01.863"W	1.22	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#20 ENGLISH FARMS 37N-8HZ (331'FNL & 2152'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 37N-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 37N-8HZ AWB <13225>
Facility	SEC.08-T1N-R65W		

WELLPATH DATA (149 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12095.00	88.710	180.600	7160.86	3356.22	-3358.21	634.62	40°03'47.503"N	104°41'01.874"W	2.21	
12190.00	89.690	182.430	7162.19	3451.18	-3453.16	632.11	40°03'46.565"N	104°41'01.906"W	2.18	
12285.00	90.770	184.350	7161.81	3546.03	-3547.99	626.49	40°03'45.628"N	104°41'01.978"W	2.32	
12380.00	88.370	182.190	7162.52	3640.87	-3642.82	621.07	40°03'44.691"N	104°41'02.048"W	3.40	
12475.00	88.580	180.970	7165.05	3735.81	-3737.75	618.45	40°03'43.753"N	104°41'02.082"W	1.30	
12569.00	89.170	180.720	7166.90	3829.78	-3831.72	617.07	40°03'42.824"N	104°41'02.100"W	0.68	
12664.00	89.320	180.280	7168.15	3924.77	-3926.71	616.24	40°03'41.885"N	104°41'02.110"W	0.49	
12759.00	90.680	180.080	7168.15	4019.77	-4021.70	615.94	40°03'40.947"N	104°41'02.114"W	1.45	
12854.00	91.690	180.190	7166.18	4114.75	-4116.68	615.72	40°03'40.008"N	104°41'02.117"W	1.07	
12949.00	89.480	180.230	7165.21	4209.74	-4211.67	615.37	40°03'39.069"N	104°41'02.122"W	2.33	
13044.00	90.000	180.180	7165.65	4304.74	-4306.67	615.03	40°03'38.131"N	104°41'02.126"W	0.55	
13138.00	89.720	179.190	7165.87	4398.73	-4400.67	615.54	40°03'37.202"N	104°41'02.119"W	1.09	
13177.00	89.690	179.530	7166.08	4437.73	-4439.66	615.98	40°03'36.816"N	104°41'02.114"W	0.88	LAST BHI MWD+IFR SURVEYS
13225.00	89.690	179.530	7166.34	4485.72	-4487.66	616.37	40°03'36.342"N	104°41'02.109"W	0.00	PROJECTION TO BIT

HOLE & CASING SECTIONS - Ref Wellbore: ENGLISH FARMS 37N-8HZ AWB <13225> Ref Wellpath: ENGLISH FARMS 37N-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]
13.5in Open Hole	16.00	1856.00	1840.00	16.00	1811.31	0.00	0.00	307.62	122.23
9.625in Casing Surface	16.00	1846.00	1830.00	16.00	1802.09	0.00	0.00	304.07	120.72
7.875in Open Hole	1856.00	13225.00	11369.00	1811.31	7166.34	307.62	122.23	-4487.66	616.37

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.05-T1N-R65W SECTION LINES	7114.00	685.99	-200.33	1728023.23	14553942.30	40°04'27.469"N	104°41'12.613"W	polygon
SEC.08-T1N-R65W SECTION LINES	7114.00	-39.16	-2255.42	1725971.51	14553210.20	40°04'20.302"N	104°41'39.048"W	polygon
ENGLISH FARMS 37N-8HZ BHL ON PLAT REV-1 (465'FSL & 1497'FEL, SEC.08)	7159.00	-4513.15	640.48	1728882.04	14548748.21	40°03'36.090"N	104°41'01.799"W	point
ENGLISH FARMS 37N-8HZ LANDBOX	7159.00	0.00	0.00	1728225.90	14553257.30	40°04'20.690"N	104°41'10.036"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: ENGLISH FARMS 37N-8HZ AWB <13225> Ref Wellpath: ENGLISH FARMS 37N-8HZ AWP					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
16.00	1803.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHI MWD+IFR SURVEYS 13.5" <148-1803>	ENGLISH FARMS 37N-8HZ AWB <13225>	
1803.00	13177.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHI MWD+IFR SURVEYS 7.875" <1858-13177>	ENGLISH FARMS 37N-8HZ AWB <13225>	
13177.00	13225.00	Blind Drilling (std)	Projection to bit	ENGLISH FARMS 37N-8HZ AWB <13225>	



Actual Wellpath Report
ENGLISH FARMS 37N-8HZ AWP
 Page 6 of 6



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#20 ENGLISH FARMS 37N-8HZ (331'FNL & 2152'FEL, SEC.08)
Area	COLORADO	Well	ENGLISH FARMS 37N-8HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	ENGLISH FARMS 37N-8HZ AWB <13225>
Facility	SEC.08-T1N-R65W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
148.00	0.600	52.510	148.00	BEGIN BHI MWD+IFR SURVEYS
7253.00	41.456	185.956	6932.74	SSPG
7293.00	45.548	184.485	6961.73	NBRR
7473.00	63.396	179.972	7065.25	N470_B_CK
7660.00	76.549	178.860	7129.76	N700_C_CK
7835.00	84.726	180.967	7154.21	ENTERED LANDBOX
7879.00	87.218	181.477	7157.30	LANDING POINT
13177.00	89.690	179.530	7166.08	LAST BHI MWD+IFR SURVEYS
13225.00	89.690	179.530	7166.34	PROJECTION TO BIT