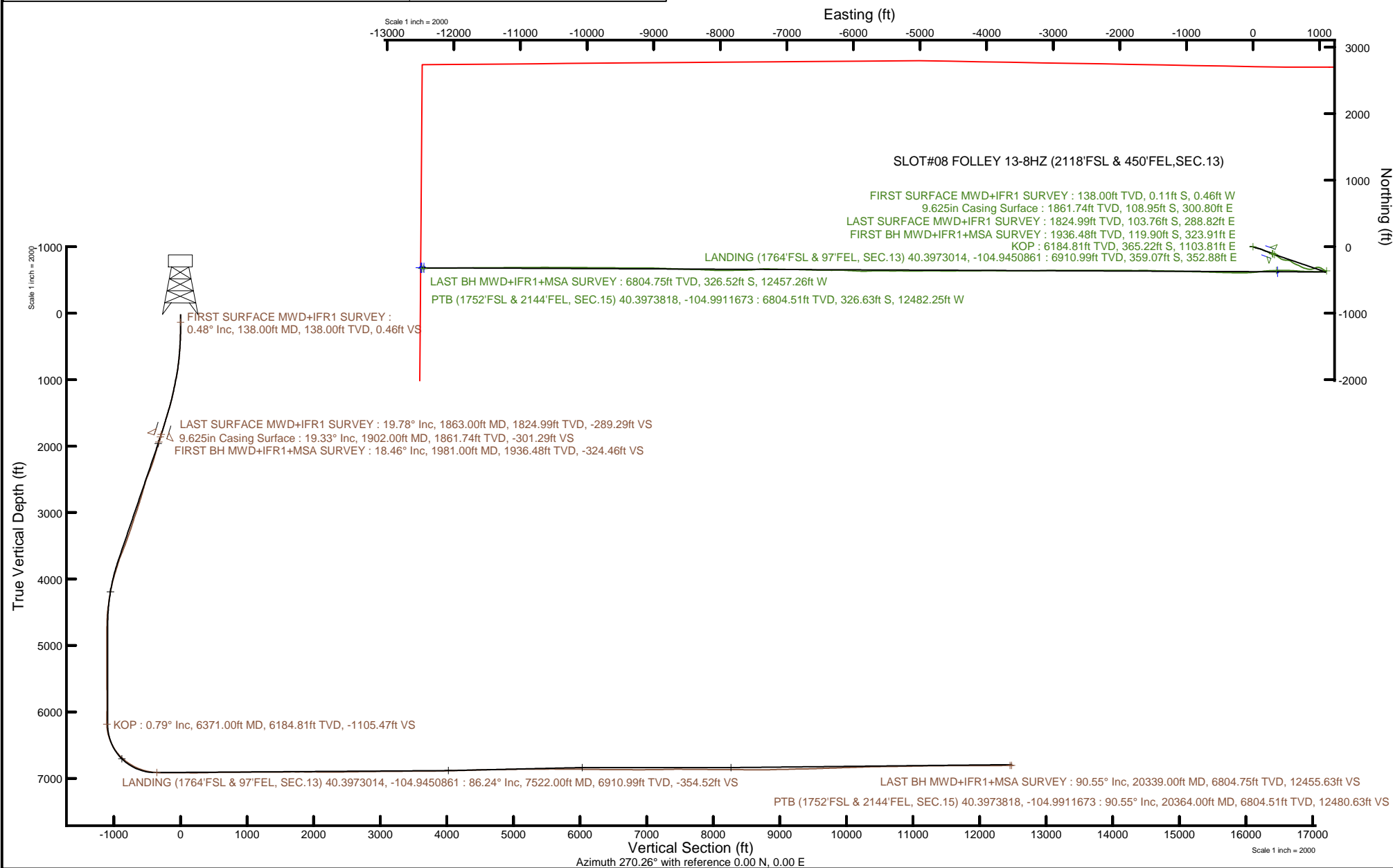


Location:	COLORADO	Slot:	SLOT#08 FOLLEY 13-8HZ (2118'FSL & 450'FEL,SEC.13)
Field:	LARIMER COUNTY	Well:	FOLLEY 13-8HZ
Facility:	SEC.13-T5N-R68W	Wellbore:	FOLLEY 13-8HZ PWB



Plot reference wellpath is FOLLEY 13-84Z PWP Rev-D.1	Grid System: NAD83 / UTM Zone 13 North, US feet
True vertical depths are referenced to PD 564 (26') (RT)	North Reference: True north
Reference wellpath measured depths are referenced to PD 564 (26') (RT)	Scale: True distance
PD 564 (26') (RT) to Mean Sea Level: 4932 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Mud line (At Slot: SLOT#08 FOLLEY 13-84Z (2118FSL & 450'FEL,SEC.13)): 0 feet	Coordinates are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: ragbyos on 2020-03-27; Database: WellArchitectDB



REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	FOLLEY 13-8HZ
Field	LARIMER COUNTY	API/Legal	
Facility	SEC.13-T5N-R68W	Wellbore	FOLLEY 13-8HZ AWB
Slot	SLOT#08 FOLLEY 13-8HZ (2118'FSL & 450'FEL,SEC.13)		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 6.0
North Reference	True	User	Ragbyos
Scale	0.999600	Report Generated	3/27/2020 at 4:35:47 PM
Convergence at slot	0.03° East	Database	WellArchitectDB

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-0.79	105.08	1655352.91	14671775.40	40.3982870°	-104.9463530°
Facility Reference Pt			1655247.87	14671776.13	40.3982892°	-104.9467303°
Field Reference Pt			0.00	0.00	0.0000000°	-109.4887439°

WELLPATH DATUM

Calculation method	Minimum curvature	PD 564 (26') (RT) to Facility Vertical Datum	4932.00ft
Horizontal Reference Pt	Slot	PD 564 (26') (RT) to Mean Sea Level	4932.00ft
Vertical Reference Pt	PD 564 (26') (RT)	PD 564 (26') (RT) to Mud Line at Slot (SLOT#08 FOLLEY 13-8HZ (2118'FSL & 450'FEL,SEC.13))	4932.00ft
MD Reference Pt	PD 564 (26') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	270.26°

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	FOLLEY 13-8HZ
Field	LARIMER COUNTY	API/Legal	
Facility	SEC.13-T5N-R68W	Wellbore	FOLLEY 13-8HZ AWB
Slot	SLOT#08 FOLLEY 13-8HZ (2118'FSL & 450'FEL,SEC.13)		

WELLPATH DATA (230 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	256.160	0.00	0.00	0.00	0.00	1655352.91	14671775.40	40.3982870	-104.9463530	0.00	
26.00	0.000	256.160	26.00	0.00	0.00	0.00	1655352.91	14671775.40	40.3982870	-104.9463530	0.00	
138.00	0.480	256.160	138.00	0.46	-0.11	-0.46	1655352.45	14671775.29	40.3982867	-104.9463546	0.43	FIRST SURFACE MWD+IFR1 SURVEY
233.00	0.130	98.040	233.00	0.73	-0.22	-0.74	1655352.17	14671775.18	40.3982864	-104.9463556	0.63	
328.00	1.800	137.680	327.98	-0.38	-1.34	0.38	1655353.28	14671774.06	40.3982833	-104.9463516	1.79	
424.00	3.080	121.860	423.89	-3.60	-3.82	3.58	1655356.49	14671771.59	40.3982765	-104.9463401	1.49	
518.00	4.220	105.250	517.70	-9.09	-6.06	9.06	1655361.97	14671769.35	40.3982704	-104.9463205	1.64	
613.00	4.970	109.470	612.40	-16.35	-8.35	16.32	1655369.22	14671767.06	40.3982641	-104.9462944	0.87	
708.00	6.720	109.110	706.90	-25.50	-11.54	25.45	1655378.35	14671763.88	40.3982553	-104.9462616	1.84	
803.00	7.820	108.060	801.14	-36.92	-15.37	36.85	1655389.75	14671760.06	40.3982448	-104.9462207	1.17	
899.00	10.020	103.840	895.97	-51.25	-19.39	51.17	1655404.07	14671756.05	40.3982338	-104.9461693	2.39	
994.00	10.900	103.400	989.39	-68.03	-23.45	67.93	1655420.82	14671752.00	40.3982226	-104.9461091	0.93	
1088.00	12.000	106.480	1081.52	-86.07	-28.28	85.94	1655438.84	14671747.18	40.3982094	-104.9460444	1.34	
1183.00	12.740	106.650	1174.31	-105.61	-34.08	105.45	1655458.34	14671741.40	40.3981934	-104.9459744	0.78	
1278.00	13.670	110.170	1266.80	-126.21	-40.95	126.02	1655478.91	14671734.54	40.3981746	-104.9459005	1.29	
1373.00	16.300	114.120	1358.56	-148.96	-50.28	148.73	1655501.61	14671725.24	40.3981490	-104.9458190	2.97	
1468.00	17.890	112.010	1449.37	-174.71	-61.19	174.43	1655527.31	14671714.34	40.3981190	-104.9457267	1.80	
1563.00	18.020	108.940	1539.74	-202.18	-71.43	201.86	1655554.73	14671704.12	40.3980909	-104.9456283	1.01	
1658.00	17.000	107.880	1630.34	-229.34	-80.46	228.98	1655581.84	14671695.11	40.3980661	-104.9455309	1.12	
1753.00	17.840	112.100	1720.98	-256.09	-90.20	255.68	1655608.54	14671685.39	40.3980394	-104.9454350	1.60	
1849.00	19.910	112.280	1811.82	-284.89	-101.93	284.43	1655637.29	14671673.68	40.3980072	-104.9453318	2.16	
1863.00	19.780	112.810	1824.99	-289.29	-103.76	288.82	1655641.68	14671671.86	40.3980022	-104.9453161	1.59	LAST SURFACE MWD+IFR1 SURVEY
1981.00	18.460	116.740	1936.48	-324.46	-119.90	323.91	1655676.76	14671655.74	40.3979579	-104.9451901	1.56	FIRST BH MWD+IFR1+MSA SURVEY
2071.00	18.560	122.270	2021.83	-349.36	-133.96	348.75	1655701.60	14671641.70	40.3979193	-104.9451009	1.95	
2160.00	19.780	125.630	2105.89	-373.65	-150.30	372.97	1655725.82	14671625.39	40.3978744	-104.9450139	1.85	
2250.00	19.870	126.080	2190.56	-398.47	-168.18	397.71	1655750.56	14671607.53	40.3978254	-104.9449251	0.20	
2339.00	21.060	119.370	2273.95	-424.71	-184.93	423.87	1655776.72	14671590.80	40.3977794	-104.9448312	2.95	
2429.00	23.010	105.590	2357.43	-455.83	-197.60	454.93	1655807.78	14671578.16	40.3977446	-104.9447197	6.12	
2518.00	22.480	94.920	2439.55	-489.58	-203.74	488.65	1655841.49	14671572.04	40.3977277	-104.9445986	4.67	
2608.00	18.050	89.600	2523.96	-520.69	-205.12	519.76	1655872.58	14671570.68	40.3977240	-104.9444869	5.33	
2697.00	16.560	108.030	2608.99	-546.58	-208.95	545.63	1655898.44	14671566.87	40.3977134	-104.9443941	6.35	
2787.00	19.020	125.320	2694.74	-570.81	-221.41	569.81	1655922.62	14671554.43	40.3976792	-104.9443072	6.44	
2876.00	20.260	126.550	2778.57	-595.11	-238.97	594.02	1655946.84	14671536.89	40.3976310	-104.9442203	1.47	
2965.00	19.740	118.190	2862.21	-620.81	-255.25	619.65	1655972.47	14671520.63	40.3975863	-104.9441283	3.26	
3055.00	19.910	110.700	2946.89	-648.61	-267.85	647.39	1656000.20	14671508.05	40.3975518	-104.9440287	2.83	
3144.00	19.670	108.220	3030.64	-677.06	-277.89	675.79	1656028.60	14671498.03	40.3975242	-104.9439267	0.98	
3234.00	20.480	121.660	3115.22	-704.92	-290.90	703.60	1656056.40	14671485.05	40.3974885	-104.9438269	5.19	
3323.00	20.310	118.070	3198.64	-731.87	-306.34	730.48	1656083.28	14671469.63	40.3974461	-104.9437304	1.42	
3413.00	20.370	111.030	3283.04	-760.34	-319.31	758.89	1656111.68	14671456.68	40.3974105	-104.9436284	2.72	
3502.00	20.190	104.130	3366.54	-789.74	-328.62	788.24	1656141.03	14671447.39	40.3973849	-104.9435230	2.69	
3591.00	20.460	105.360	3450.00	-819.67	-336.49	818.14	1656170.92	14671439.54	40.3973633	-104.9434157	0.57	
3681.00	21.160	90.400	3534.18	-851.12	-340.77	849.57	1656202.34	14671435.28	40.3973516	-104.9433028	5.94	
3770.00	23.290	80.970	3616.59	-884.56	-338.12	883.03	1656235.78	14671437.95	40.3973588	-104.9431827	4.66	
3859.00	21.020	66.220	3699.08	-916.53	-328.91	915.04	1656267.78	14671447.17	40.3973841	-104.9430678	6.73	
3948.00	17.560	65.030	3783.07	-943.26	-316.81	941.82	1656294.55	14671459.29	40.3974173	-104.9429716	3.91	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	FOLLEY 13-8HZ
Field	LARIMER COUNTY	API/Legal	
Facility	SEC.13-T5N-R68W	Wellbore	FOLLEY 13-8HZ AWB
Slot	SLOT#08 FOLLEY 13-8HZ (2118'FSL & 450'FEL,SEC.13)		

WELLPATH DATA (230 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
4038.00	17.500	84.590	3868.97	-969.03	309.79	967.63	1656320.33	14671466.32	40.3974366	-104.9428790	6.52	
4127.00	17.620	108.350	3953.93	-995.19	-312.78	993.77	1656346.46	14671463.35	40.3974284	-104.9427851	8.00	
4217.00	15.320	114.710	4040.24	-1018.96	-322.04	1017.50	1656370.20	14671454.11	40.3974030	-104.9426999	3.24	
4306.00	13.830	121.540	4126.38	-1038.76	-332.52	1037.25	1656389.94	14671443.65	40.3973742	-104.9426290	2.55	
4395.00	12.260	127.040	4213.08	-1055.42	-343.78	1053.86	1656406.55	14671432.40	40.3973433	-104.9425694	2.25	
4484.00	10.160	123.960	4300.38	-1069.52	-353.85	1067.92	1656420.61	14671422.34	40.3973156	-104.9425189	2.45	
4573.00	8.750	122.190	4388.17	-1081.80	-361.85	1080.16	1656432.85	14671414.36	40.3972937	-104.9424750	1.62	
4663.00	7.120	94.450	4477.34	-1093.18	-365.93	1091.51	1656444.21	14671410.28	40.3972825	-104.9424342	4.57	
4752.00	3.450	55.620	4565.97	-1100.89	-364.84	1099.23	1656451.92	14671411.37	40.3972855	-104.9424065	5.54	
4841.00	1.280	70.550	4654.89	-1104.03	-363.00	1102.38	1656455.06	14671413.22	40.3972905	-104.9423952	2.51	
4930.00	1.220	139.870	4743.87	-1105.57	-363.39	1103.92	1656456.61	14671412.82	40.3972895	-104.9423896	1.60	
5020.00	0.290	146.830	4833.86	-1106.32	-364.32	1104.67	1656457.35	14671411.90	40.3972869	-104.9423870	1.04	
5109.00	0.710	119.300	4922.86	-1106.93	-364.77	1105.27	1656457.96	14671411.44	40.3972857	-104.9423848	0.53	
5198.00	0.540	159.120	5011.85	-1107.56	-365.44	1105.90	1656458.59	14671410.78	40.3972838	-104.9423826	0.51	
5288.00	0.370	244.140	5101.85	-1107.45	-365.96	1105.79	1656458.48	14671410.26	40.3972824	-104.9423829	0.70	
5377.00	0.240	304.320	5190.85	-1107.04	-365.98	1105.38	1656458.06	14671410.24	40.3972824	-104.9423844	0.37	
5467.00	0.240	169.640	5280.85	-1106.92	-366.06	1105.26	1656457.94	14671410.16	40.3972821	-104.9423849	0.49	
5556.00	0.520	210.620	5369.85	-1106.75	-366.59	1105.08	1656457.77	14671409.63	40.3972807	-104.9423855	0.42	
5645.00	0.700	328.570	5458.84	-1106.26	-366.47	1104.60	1656457.28	14671409.75	40.3972810	-104.9423872	1.18	
5735.00	1.090	144.840	5548.84	-1106.47	-366.70	1104.80	1656457.49	14671409.52	40.3972804	-104.9423865	1.99	
5824.00	1.700	305.340	5637.83	-1105.88	-366.63	1104.21	1656456.90	14671409.59	40.3972806	-104.9423886	3.09	
5914.00	0.450	45.000	5727.82	-1105.03	-365.61	1103.37	1656456.06	14671410.61	40.3972834	-104.9423916	2.03	
6004.00	0.210	301.280	5817.82	-1105.14	-365.27	1103.48	1656456.17	14671410.94	40.3972843	-104.9423912	0.60	
6093.00	0.170	13.230	5906.81	-1105.03	-365.06	1103.37	1656456.06	14671411.16	40.3972849	-104.9423916	0.25	
6182.00	0.210	70.540	5995.81	-1105.21	-364.88	1103.56	1656456.24	14671411.34	40.3972854	-104.9423910	0.21	
6272.00	0.160	158.850	6085.81	-1105.41	-364.94	1103.76	1656456.44	14671411.28	40.3972852	-104.9423902	0.29	
6361.00	0.210	155.050	6174.81	-1105.53	-365.20	1103.87	1656456.56	14671411.01	40.3972845	-104.9423898	0.06	
6371.00†	0.786	268.370	6184.81	-1105.47	-365.22	1103.81	1656456.50	14671410.99	40.3972844	-104.9423901	8.90	KOP
6450.00	7.800	279.640	6263.54	-1099.63	-364.34	1097.98	1656450.66	14671411.87	40.3972869	-104.9424110	8.90	
6540.00	15.370	263.280	6351.67	-1081.74	-364.71	1080.08	1656432.78	14671411.49	40.3972858	-104.9424753	9.09	
6629.00	22.820	259.330	6435.71	-1053.04	-369.30	1051.36	1656404.07	14671406.89	40.3972733	-104.9425784	8.49	
6718.00	28.850	264.610	6515.79	-1014.69	-374.51	1012.99	1656365.71	14671401.65	40.3972589	-104.9427161	7.25	
6808.00	35.720	270.140	6591.85	-966.74	-376.49	965.03	1656317.78	14671399.65	40.3972535	-104.9428883	8.30	
6897.00	43.320	271.090	6660.45	-910.15	-375.85	908.44	1656261.21	14671400.26	40.3972553	-104.9430915	8.57	
6986.00	51.000	270.490	6720.93	-844.94	-374.97	843.24	1656196.03	14671401.09	40.3972577	-104.9433256	8.64	
7075.00	55.140	272.930	6774.39	-773.85	-372.80	772.15	1656124.97	14671403.21	40.3972637	-104.9435808	5.14	
7164.00	62.630	274.170	6820.35	-697.83	-368.06	696.16	1656049.01	14671407.91	40.3972767	-104.9438536	8.50	
7254.00	69.560	273.970	6856.80	-615.79	-362.23	614.14	1655967.02	14671413.69	40.3972927	-104.9441481	7.70	
7343.00	74.960	271.450	6883.91	-531.13	-358.25	529.50	1655882.41	14671417.62	40.3973036	-104.9444520	6.64	
7432.00	81.940	269.720	6901.72	-443.99	-357.37	442.37	1655795.31	14671418.44	40.3973060	-104.9447648	8.07	
7522.00	86.240	268.120	6910.99	-354.52	-359.07	352.88	1655705.87	14671416.69	40.3973014	-104.9450861	5.09	LANDING (1764'FSL & 97'FEL, SEC.13) 40.3973014, -104.9450861
7611.00	90.120	268.440	6913.82	-265.64	-361.74	263.99	1655617.01	14671413.97	40.3972941	-104.9454052	4.37	
7700.00	90.150	264.300	6913.61	-176.86	-367.37	175.18	1655528.24	14671408.29	40.3972786	-104.9457240	4.65	
7790.00	89.630	261.590	6913.78	-87.60	-378.42	85.87	1655438.98	14671397.18	40.3972483	-104.9460447	3.07	
7879.00	89.600	266.050	6914.38	0.81	-388.00	-2.58	1655350.56	14671387.56	40.3972220	-104.9463623	5.01	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	FOLLEY 13-8HZ
Field	LARIMER COUNTY	API/Legal	
Facility	SEC.13-T5N-R68W	Wellbore	FOLLEY 13-8HZ AWB
Slot	SLOT#08 FOLLEY 13-8HZ (2118'FSL & 450'FEL,SEC.13)		

WELLPATH DATA (230 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
7968.00	89.420	268.070	6915.14	89.66	-392.56	-91.46	1655261.72	14671382.94	40.3972094	-104.9466814	2.28	
8057.00	89.510	269.850	6915.97	178.63	-394.18	-180.44	1655172.78	14671381.27	40.3972050	-104.9470008	2.00	
8147.00	91.200	271.180	6915.41	268.63	-393.37	-270.43	1655082.83	14671382.02	40.3972072	-104.9473239	2.39	
8236.00	91.140	271.040	6913.59	357.60	-391.65	-359.39	1654993.90	14671383.69	40.3972120	-104.9476433	0.17	
8325.00	92.030	271.900	6911.13	446.54	-389.37	-448.33	1654905.00	14671385.92	40.3972182	-104.9479626	1.39	
8415.00	90.950	272.100	6908.79	536.47	-386.23	-538.24	1654815.12	14671389.00	40.3972268	-104.9482854	1.22	
8504.00	90.710	271.680	6907.50	625.42	-383.29	-627.18	1654726.21	14671391.88	40.3972349	-104.9486047	0.54	
8594.00	90.460	271.750	6906.58	715.39	-380.60	-717.14	1654636.29	14671394.52	40.3972423	-104.9489277	0.29	
8683.00	90.150	271.160	6906.11	804.37	-378.34	-806.11	1654547.36	14671396.73	40.3972485	-104.9492471	0.75	
8772.00	90.520	271.370	6905.59	893.35	-376.37	-895.08	1654458.41	14671398.64	40.3972539	-104.9495666	0.48	
8862.00	90.620	271.500	6904.69	983.33	-374.12	-985.05	1654368.48	14671400.84	40.3972600	-104.9498896	0.18	
8951.00	90.520	271.690	6903.81	1072.30	-371.64	-1074.01	1654279.55	14671403.26	40.3972668	-104.9502090	0.24	
9041.00	90.030	271.270	6903.38	1162.28	-369.32	-1163.98	1654189.62	14671405.53	40.3972732	-104.9505320	0.72	
9130.00	90.710	271.100	6902.80	1251.26	-367.48	-1252.96	1654100.68	14671407.31	40.3972782	-104.9508514	0.79	
9219.00	89.230	271.060	6902.85	1340.25	-365.80	-1341.94	1654011.73	14671408.93	40.3972828	-104.9511709	1.66	
9309.00	90.710	271.960	6902.90	1430.23	-363.43	-1431.91	1653921.80	14671411.25	40.3972893	-104.9514939	1.92	
9398.00	88.610	271.450	6903.42	1519.19	-360.78	-1520.86	1653832.88	14671413.84	40.3972966	-104.9518132	2.43	
9488.00	91.720	271.840	6903.17	1609.16	-358.20	-1610.81	1653742.96	14671416.37	40.3973036	-104.9521362	3.48	
9577.00	89.660	267.470	6902.09	1698.12	-358.73	-1699.78	1653654.03	14671415.78	40.3973022	-104.9524556	5.43	
9667.00	90.180	271.390	6902.22	1788.09	-359.63	-1789.75	1653564.09	14671414.83	40.3972997	-104.9527786	4.39	
9756.00	89.720	271.260	6902.30	1877.07	-357.57	-1878.73	1653475.15	14671416.84	40.3973053	-104.9530981	0.54	
9845.00	90.370	269.680	6902.23	1966.07	-356.84	-1967.72	1653386.19	14671417.51	40.3973073	-104.9534176	1.92	
9935.00	89.320	270.190	6902.47	2056.07	-356.94	-2057.72	1653296.23	14671417.35	40.3973070	-104.9537407	1.30	
10024.00	89.630	269.480	6903.29	2145.06	-357.20	-2146.72	1653207.27	14671417.04	40.3973063	-104.9540602	0.87	
10114.00	90.000	270.240	6903.58	2235.06	-357.42	-2236.71	1653117.31	14671416.77	40.3973056	-104.9543833	0.94	
10203.00	89.510	269.260	6903.96	2324.05	-357.81	-2325.71	1653028.35	14671416.33	40.3973046	-104.9547029	1.23	
10292.00	91.390	269.830	6903.26	2413.04	-358.51	-2414.70	1652939.39	14671415.57	40.3973026	-104.9550224	2.21	
10382.00	90.980	270.480	6901.40	2503.02	-358.27	-2504.68	1652849.45	14671415.76	40.3973032	-104.9553454	0.85	
10471.00	90.400	270.000	6900.32	2592.01	-357.90	-2593.67	1652760.49	14671416.07	40.3973042	-104.9556649	0.85	
10560.00	91.510	269.250	6898.84	2680.99	-358.48	-2682.66	1652671.55	14671415.44	40.3973026	-104.9559844	1.51	
10650.00	90.520	270.600	6897.25	2770.97	-358.60	-2772.64	1652581.60	14671415.27	40.3973023	-104.9563074	1.86	
10740.00	90.580	270.670	6896.38	2860.97	-357.60	-2862.63	1652491.65	14671416.21	40.3973050	-104.9566305	0.10	
10829.00	90.620	268.930	6895.45	2949.95	-357.91	-2951.62	1652402.69	14671415.84	40.3973041	-104.9569500	1.96	
10918.00	90.950	270.500	6894.23	3038.94	-358.35	-3040.61	1652313.74	14671415.35	40.3973028	-104.9572695	1.80	
11008.00	90.550	267.210	6893.05	3128.89	-360.15	-3130.57	1652223.81	14671413.50	40.3972979	-104.9575925	3.68	
11098.00	88.920	269.670	6893.47	3218.83	-362.60	-3220.53	1652133.90	14671410.99	40.3972911	-104.9579155	3.28	
11187.00	91.820	270.420	6892.89	3307.82	-362.53	-3309.51	1652044.94	14671411.01	40.3972913	-104.9582349	3.37	
11277.00	90.280	268.000	6891.25	3397.78	-363.77	-3399.48	1651955.01	14671409.71	40.3972878	-104.9585579	3.19	
11366.00	91.110	270.300	6890.17	3486.75	-365.09	-3488.46	1651866.07	14671408.34	40.3972842	-104.9588774	2.75	
11456.00	90.030	270.490	6889.27	3576.75	-364.47	-3578.45	1651776.12	14671408.90	40.3972858	-104.9592005	1.22	
11545.00	89.380	270.170	6889.73	3665.74	-363.96	-3667.45	1651687.16	14671409.36	40.3972872	-104.9595200	0.81	
11635.00	89.910	270.200	6890.29	3755.74	-363.67	-3757.44	1651597.19	14671409.60	40.3972880	-104.9598431	0.59	
11724.00	92.090	270.910	6888.73	3844.72	-362.81	-3846.42	1651508.25	14671410.41	40.3972903	-104.9601626	2.58	
11813.00	90.520	270.840	6886.71	3933.69	-361.45	-3935.38	1651419.32	14671411.71	40.3972940	-104.9604820	1.77	
11903.00	92.460	269.080	6884.37	4023.65	-361.51	-4025.35	1651329.40	14671411.59	40.3972938	-104.9608049	2.91	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	FOLLEY 13-8HZ
Field	LARIMER COUNTY	API/Legal	
Facility	SEC.13-T5N-R68W	Wellbore	FOLLEY 13-8HZ AWB
Slot	SLOT#08 FOLLEY 13-8HZ (2118'FSL & 450'FEL,SEC.13)		

WELLPATH DATA (230 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
11992.00	90.250	268.840	6882.26	4112.60	-363.13	-4114.30	1651240.48	14671409.93	40.3972893	-104.9611243	2.50	
12081.00	91.540	270.200	6880.87	4201.58	-363.87	-4203.28	1651151.53	14671409.13	40.3972872	-104.9614438	2.11	
12171.00	92.120	270.430	6878.00	4291.53	-363.38	-4293.24	1651061.62	14671409.57	40.3972885	-104.9617667	0.69	
12261.00	90.950	268.270	6875.59	4381.48	-364.40	-4383.19	1650971.70	14671408.49	40.3972857	-104.9620897	2.73	
12350.00	91.540	269.880	6873.65	4470.44	-365.83	-4472.15	1650882.77	14671407.00	40.3972817	-104.9624091	1.93	
12439.00	91.630	269.910	6871.19	4559.40	-366.00	-4561.12	1650793.84	14671406.78	40.3972812	-104.9627285	0.11	
12528.00	91.290	270.080	6868.92	4648.37	-366.01	-4650.09	1650704.91	14671406.72	40.3972811	-104.9630479	0.43	
12617.00	91.480	270.600	6866.77	4737.34	-365.48	-4739.06	1650615.97	14671407.20	40.3972826	-104.9633674	0.62	
12707.00	89.970	270.650	6865.63	4827.33	-364.50	-4829.05	1650526.02	14671408.12	40.3972852	-104.9636904	1.68	
12797.00	90.310	268.500	6865.41	4917.32	-365.16	-4919.04	1650436.07	14671407.40	40.3972833	-104.9640135	2.42	
12886.00	92.090	270.200	6863.55	5006.28	-366.17	-5008.01	1650347.14	14671406.34	40.3972805	-104.9643329	2.77	
12976.00	90.220	270.120	6861.73	5096.26	-365.92	-5097.99	1650257.19	14671406.53	40.3972811	-104.9646560	2.08	
13065.00	91.880	269.770	6860.10	5185.24	-366.01	-5186.97	1650168.25	14671406.39	40.3972808	-104.9649754	1.91	
13155.00	89.630	270.590	6858.92	5275.22	-365.72	-5276.95	1650078.30	14671406.62	40.3972816	-104.9652985	2.66	
13244.00	89.510	269.280	6859.59	5364.22	-365.82	-5365.95	1649989.34	14671406.47	40.3972812	-104.9656180	1.48	
13333.00	90.370	270.640	6859.68	5453.21	-365.89	-5454.94	1649900.38	14671406.35	40.3972810	-104.9659375	1.81	
13423.00	90.680	269.990	6858.85	5543.21	-365.39	-5544.94	1649810.42	14671406.79	40.3972823	-104.9662606	0.80	
13512.00	89.010	271.050	6859.10	5632.20	-364.58	-5633.93	1649721.46	14671407.55	40.3972845	-104.9665801	2.22	
13602.00	90.460	267.480	6859.51	5722.17	-365.74	-5723.91	1649631.53	14671406.34	40.3972813	-104.9669032	4.28	
13691.00	89.880	267.840	6859.25	5811.08	-369.37	-5812.83	1649542.64	14671402.65	40.3972712	-104.9672224	0.77	
13781.00	89.230	273.220	6859.95	5901.04	-368.54	-5902.79	1649452.71	14671403.43	40.3972735	-104.9675454	6.02	
13870.00	89.010	272.470	6861.31	5989.94	-364.12	-5991.67	1649363.87	14671407.79	40.3972855	-104.9678645	0.88	
13959.00	89.230	273.600	6862.68	6078.83	-359.41	-6080.53	1649275.04	14671412.44	40.3972984	-104.9681836	1.29	
14048.00	88.710	272.230	6864.28	6167.71	-354.89	-6169.40	1649186.20	14671416.91	40.3973107	-104.9685026	1.65	
14138.00	90.060	268.040	6865.25	6257.69	-354.68	-6259.37	1649096.27	14671417.07	40.3973113	-104.9688256	4.89	
14227.00	88.280	270.530	6866.54	6346.65	-355.79	-6348.35	1649007.33	14671415.91	40.3973082	-104.9691451	3.44	
14316.00	89.880	270.740	6867.97	6435.64	-354.80	-6437.33	1648918.38	14671416.84	40.3973108	-104.9694645	1.81	
14406.00	90.060	271.500	6868.01	6525.63	-353.04	-6527.31	1648828.44	14671418.54	40.3973156	-104.9697876	0.87	
14495.00	89.750	270.620	6868.16	6614.62	-351.39	-6616.29	1648739.49	14671420.13	40.3973200	-104.9701071	1.05	
14585.00	90.090	271.960	6868.29	6704.60	-349.37	-6706.27	1648649.55	14671422.10	40.3973255	-104.9704301	1.54	
14674.00	89.080	271.680	6868.93	6793.56	-346.54	-6795.22	1648560.63	14671424.88	40.3973332	-104.9707495	1.18	
14853.00	90.920	270.490	6868.93	6972.53	-343.15	-6974.18	1648381.74	14671428.16	40.3973424	-104.9713920	1.22	
14942.00	89.940	272.380	6868.26	7061.51	-340.92	-7063.14	1648292.81	14671430.33	40.3973484	-104.9717114	2.39	
15031.00	91.380	270.140	6867.24	7150.48	-338.97	-7152.10	1648203.88	14671432.23	40.3973537	-104.9720308	2.99	
15121.00	90.490	272.800	6865.77	7240.44	-336.66	-7242.05	1648113.97	14671434.48	40.3973600	-104.9723537	3.12	
15210.00	91.600	269.450	6864.14	7329.40	-334.91	-7331.01	1648025.05	14671436.18	40.3973647	-104.9726731	3.96	
15299.00	90.980	264.450	6862.14	7418.20	-339.64	-7419.83	1647936.27	14671431.39	40.3973516	-104.9729920	5.66	
15388.00	89.350	264.930	6861.88	7506.78	-347.88	-7508.44	1647847.69	14671423.11	40.3973290	-104.9733101	1.91	
15477.00	90.060	268.940	6862.34	7595.61	-352.64	-7597.30	1647758.88	14671418.30	40.3973158	-104.9736291	4.58	
15567.00	88.770	270.010	6863.26	7685.59	-353.46	-7687.29	1647668.93	14671417.42	40.3973135	-104.9739522	1.86	
15656.00	90.250	268.080	6864.02	7774.56	-354.95	-7776.26	1647579.99	14671415.88	40.3973093	-104.9742716	2.73	
15746.00	88.830	269.560	6864.74	7864.52	-356.80	-7866.24	1647490.05	14671413.97	40.3973042	-104.9745947	2.28	
15835.00	89.630	268.860	6865.94	7953.50	-358.03	-7955.22	1647401.10	14671412.69	40.3973007	-104.9749141	1.19	
15925.00	88.950	271.830	6867.06	8043.48	-357.48	-8045.20	1647311.16	14671413.18	40.3973021	-104.9752372	3.39	
16014.00	89.480	272.680	6868.28	8132.42	-353.98	-8134.12	1647222.27	14671416.63	40.3973117	-104.9755564	1.13	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	FOLLEY 13-8HZ
Field	LARIMER COUNTY	API/Legal	
Facility	SEC.13-T5N-R68W	Wellbore	FOLLEY 13-8HZ AWB
Slot	SLOT#08 FOLLEY 13-8HZ (2118'FSL & 450'FEL,SEC.13)		

WELLPATH DATA (230 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
16104.00	91.260	273.460	6867.69	8222.30	-349.16	-8223.99	1647132.44	14671421.39	40.3973248	-104.9758791	2.16	
16193.00	89.940	272.390	6866.76	8311.20	-344.62	-8312.86	1647043.60	14671425.87	40.3973372	-104.9761982	1.91	
16282.00	89.380	269.600	6867.29	8400.18	-343.08	-8401.84	1646954.65	14671427.37	40.3973414	-104.9765176	3.20	
16372.00	87.080	272.350	6870.07	8490.12	-341.55	-8491.77	1646864.76	14671428.84	40.3973455	-104.9768405	3.98	
16461.00	90.650	271.980	6871.83	8579.04	-338.19	-8580.67	1646775.89	14671432.14	40.3973546	-104.9771597	4.03	
16551.00	90.800	272.400	6870.69	8668.98	-334.75	-8670.60	1646686.00	14671435.53	40.3973640	-104.9774825	0.50	
16640.00	89.940	272.310	6870.12	8757.92	-331.09	-8759.52	1646597.11	14671439.13	40.3973739	-104.9778018	0.97	
16730.00	91.630	270.940	6868.89	8847.88	-328.54	-8849.47	1646507.19	14671441.63	40.3973808	-104.9781247	2.42	
16819.00	91.940	273.750	6866.11	8936.77	-324.90	-8938.34	1646418.35	14671445.21	40.3973907	-104.9784438	3.17	
16909.00	91.170	270.350	6863.67	9026.67	-321.68	-9028.24	1646328.49	14671448.37	40.3973995	-104.9787666	3.87	
16998.00	90.520	270.290	6862.36	9115.66	-321.19	-9117.23	1646239.54	14671448.81	40.3974007	-104.9790861	0.73	
17087.00	92.520	271.050	6860.00	9204.63	-320.15	-9206.19	1646150.62	14671449.80	40.3974035	-104.9794054	2.40	
17177.00	89.780	268.500	6858.19	9294.59	-320.50	-9296.15	1646060.69	14671449.39	40.3974024	-104.9797284	4.16	
17266.00	91.850	270.250	6856.93	9383.56	-321.47	-9385.13	1645971.75	14671448.37	40.3973997	-104.9800479	3.05	
17355.00	91.320	271.020	6854.46	9472.52	-320.48	-9474.09	1645882.82	14671449.30	40.3974023	-104.9803673	1.05	
17444.00	92.000	270.510	6851.89	9561.48	-319.30	-9563.04	1645793.90	14671450.43	40.3974055	-104.9806866	0.95	
17534.00	92.160	270.780	6848.62	9651.42	-318.28	-9652.98	1645704.00	14671451.39	40.3974081	-104.9810095	0.35	
17623.00	91.750	270.890	6845.58	9740.36	-316.99	-9741.91	1645615.10	14671452.63	40.3974116	-104.9813289	0.48	
17713.00	91.850	270.060	6842.76	9830.32	-316.24	-9831.87	1645525.19	14671453.32	40.3974136	-104.9816518	0.93	
17802.00	92.120	270.090	6839.67	9919.26	-316.13	-9920.81	1645436.27	14671453.38	40.3974138	-104.9819711	0.31	
17892.00	91.690	270.500	6836.68	10009.21	-315.66	-10010.76	1645346.36	14671453.79	40.3974150	-104.9822941	0.66	
17981.00	91.480	270.340	6834.22	10098.18	-315.01	-10099.73	1645257.43	14671454.39	40.3974166	-104.9826135	0.30	
18070.00	92.490	271.160	6831.14	10187.12	-313.85	-10188.66	1645168.53	14671455.50	40.3974197	-104.9829328	1.46	
18160.00	92.000	270.020	6827.61	10277.05	-312.92	-10278.59	1645078.64	14671456.37	40.3974222	-104.9832556	1.38	
18249.00	91.170	270.410	6825.15	10366.01	-312.59	-10367.55	1644989.71	14671456.65	40.3974230	-104.9835750	1.03	
18338.00	91.290	268.540	6823.24	10454.98	-313.40	-10456.52	1644900.78	14671455.78	40.3974206	-104.9838945	2.10	
18428.00	90.520	271.660	6821.82	10544.96	-313.24	-10546.50	1644810.84	14671455.88	40.3974210	-104.9842175	3.57	
18517.00	90.370	269.870	6821.13	10633.95	-312.06	-10635.49	1644721.89	14671457.02	40.3974241	-104.9845370	2.02	
18607.00	91.200	269.260	6819.89	10723.93	-312.74	-10725.47	1644631.94	14671456.28	40.3974221	-104.9848601	1.14	
18696.00	90.980	269.350	6818.20	10812.90	-313.82	-10814.45	1644542.99	14671455.15	40.3974191	-104.9851795	0.27	
18786.00	90.310	270.480	6817.19	10902.89	-313.95	-10904.44	1644453.04	14671454.96	40.3974186	-104.9855026	1.46	
18875.00	91.910	270.570	6815.46	10991.87	-313.14	-10993.42	1644364.10	14671455.72	40.3974207	-104.9858221	1.80	
18965.00	90.830	269.270	6813.31	11081.84	-313.26	-11083.39	1644274.16	14671455.54	40.3974203	-104.9861451	1.88	
19054.00	91.080	269.150	6811.83	11170.81	-314.49	-11172.37	1644185.22	14671454.26	40.3974168	-104.9864645	0.31	
19144.00	90.090	269.180	6810.91	11260.79	-315.80	-11262.35	1644095.27	14671452.89	40.3974131	-104.9867876	1.10	
19233.00	90.740	269.530	6810.26	11349.78	-316.80	-11351.35	1644006.32	14671451.84	40.3974102	-104.9871071	0.83	
19323.00	90.680	270.050	6809.15	11439.77	-317.13	-11441.34	1643916.36	14671451.45	40.3974092	-104.9874302	0.58	
19413.00	90.430	269.580	6808.28	11529.76	-317.42	-11531.33	1643826.40	14671451.11	40.3974083	-104.9877533	0.59	
19502.00	90.460	269.800	6807.59	11618.75	-317.91	-11620.33	1643737.44	14671450.57	40.3974069	-104.9880728	0.25	
19591.00	89.880	268.850	6807.32	11707.74	-318.95	-11709.32	1643648.49	14671449.47	40.3974039	-104.9883923	1.25	
19681.00	89.820	269.010	6807.56	11797.71	-320.63	-11799.30	1643558.54	14671447.74	40.3973991	-104.9887154	0.19	
19770.00	89.750	269.390	6807.89	11886.70	-321.88	-11888.30	1643469.59	14671446.44	40.3973956	-104.9890349	0.43	
19860.00	89.690	269.750	6808.33	11976.69	-322.55	-11978.29	1643379.63	14671445.71	40.3973936	-104.9893580	0.41	
19949.00	90.680	269.730	6808.04	12065.69	-322.96	-12067.29	1643290.67	14671445.25	40.3973924	-104.9896775	1.11	
20038.00	90.460	269.220	6807.16	12154.67	-323.77	-12156.28	1643201.71	14671444.39	40.3973900	-104.9899970	0.62	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	FOLLEY 13-8HZ
Field	LARIMER COUNTY	API/Legal	
Facility	SEC.13-T5N-R68W	Wellbore	FOLLEY 13-8HZ AWB
Slot	SLOT#08 FOLLEY 13-8HZ (2118'FSL & 450'FEL,SEC.13)		

WELLPATH DATA (230 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
20128.00	90.370	269.570	6806.51	12244.66	324.72	12246.27	1643111.75	14671443.38	40.3973873	-104.9903201	0.40	
20218.00	90.800	269.640	6805.59	12334.65	-325.34	-12336.27	1643021.80	14671442.71	40.3973855	-104.9906432	0.48	
20307.00	90.060	269.210	6804.92	12423.64	-326.24	-12425.26	1642932.84	14671441.76	40.3973829	-104.9909627	0.96	
20339.00	90.550	269.760	6804.75	12455.63	-326.52	-12457.26	1642900.86	14671441.45	40.3973821	-104.9910776	2.30	LAST BH MWD+IFR1+MSA SURVEY
20364.00‡	90.550	269.760	6804.51	12480.63	-326.63	-12482.25	1642875.87	14671441.33	40.3973818	-104.9911673	0.00	PTB (1752'FSL & 2144'FEL, SEC.15) 40.3973818, -104.9911673

HOLE & CASING SECTIONS - Ref Wellbore: FOLLEY 13-8HZ AWB Ref Wellpath: FOLLEY 13-8HZ 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	1902.00	1876.00	26.00	1861.74	0.00	0.00	-108.95	300.80

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	FOLLEY 13-8HZ
Field	LARIMER COUNTY	API/Legal	
Facility	SEC.13-T5N-R68W	Wellbore	FOLLEY 13-8HZ AWB
Slot	SLOT#08 FOLLEY 13-8HZ (2118'FSL & 450'FEL,SEC.13)		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.13-T5N-R67W	0.00	0.79	-105.08	1655247.87	14671776.13	40.3982892	-104.9467303	polygon
2D Polygon: dimensions not calculated								
SEC.14-T5N-R67W	0.00	0.79	-105.08	1655247.87	14671776.13	40.3982892	-104.9467303	polygon
2D Polygon: dimensions not calculated								
SEC.15-T5N-R67W	0.00	0.79	-105.08	1655247.87	14671776.13	40.3982892	-104.9467303	polygon
2D Polygon: dimensions not calculated								
SEC.17-T5N-R67W	0.00	0.79	-105.08	1655247.87	14671776.13	40.3982892	-104.9467303	polygon
2D Polygon: dimensions not calculated								
SEC.18-T5N-R67W	0.00	0.79	-105.08	1655247.87	14671776.13	40.3982892	-104.9467303	polygon
2D Polygon: dimensions not calculated								
FOLLEY 13-8HZ BHL REV-1 (1760'FSL & 2159'FEL,SEC.15)	6792.00	-318.88	-12498.04	1642860.09	14671449.07	40.3974030	-104.9912240	point
FOLLEY 13-8HZ BHL REV-2 (1760'FSL & 2109'FEL,SEC.15)	6792.00	-318.88	-12448.04	1642910.07	14671449.10	40.3974031	-104.9910445	point
FOLLEY 13-8HZ BHL REV-3 (1760'FSL & 2149'FEL,SEC.15)	6792.00	-318.88	-12488.04	1642870.08	14671449.07	40.3974030	-104.9911881	point
FOLLEY 13-8HZ BHL REV-4 (1760'FSL & 2144'FEL,SEC.15)	6792.00	-318.88	-12483.04	1642875.08	14671449.08	40.3974030	-104.9911701	point
FOLLEY 13-8HZ HEEL REV-1 (1745'FSL & 75'FEL,SEC.13)	6912.00	-377.79	369.89	1655722.88	14671397.99	40.3972500	-104.9450250	point
FOLLEY 13 DSU	7170.00	0.79	-105.08	1655247.87	14671776.13	40.3982892	-104.9467303	polygon
2D Polygon: dimensions not calculated								

WELLPATH COMPOSITION - Ref Wellbore: FOLLEY 13-8HZ AWB Ref Wellpath: FOLLEY 13-8HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	1863.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <137 - 1863 >	FOLLEY 13-8HZ AWB	1/15/2020
1863.00	20364.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BH Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1863 - 20339>	FOLLEY 13-8HZ AWB	2/27/2020

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	FOLLEY 13-8HZ
Field	LARIMER COUNTY	API/Legal	
Facility	SEC.13-T5N-R68W	Wellbore	FOLLEY 13-8HZ AWB
Slot	SLOT#08 FOLLEY 13-8HZ (2118'FSL & 450'FEL,SEC.13)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
138.00	0.480	256.160	138.00	FIRST SURFACE MWD+IFR1 SURVEY
1863.00	19.780	112.810	1824.99	LAST SURFACE MWD+IFR1 SURVEY
1981.00	18.460	116.740	1936.48	FIRST BH MWD+IFR1+MSA SURVEY
6371.00	0.786	268.370	6184.81	KOP
7522.00	86.240	268.120	6910.99	LANDING (1764'FSL & 97'FEL, SEC.13) 40.3973014, -104.9450861
20339.00	90.550	269.760	6804.75	LAST BH MWD+IFR1+MSA SURVEY
20364.00	90.550	269.760	6804.51	PTB (1752'FSL & 2144'FEL, SEC.15) 40.3973818, -104.9911673