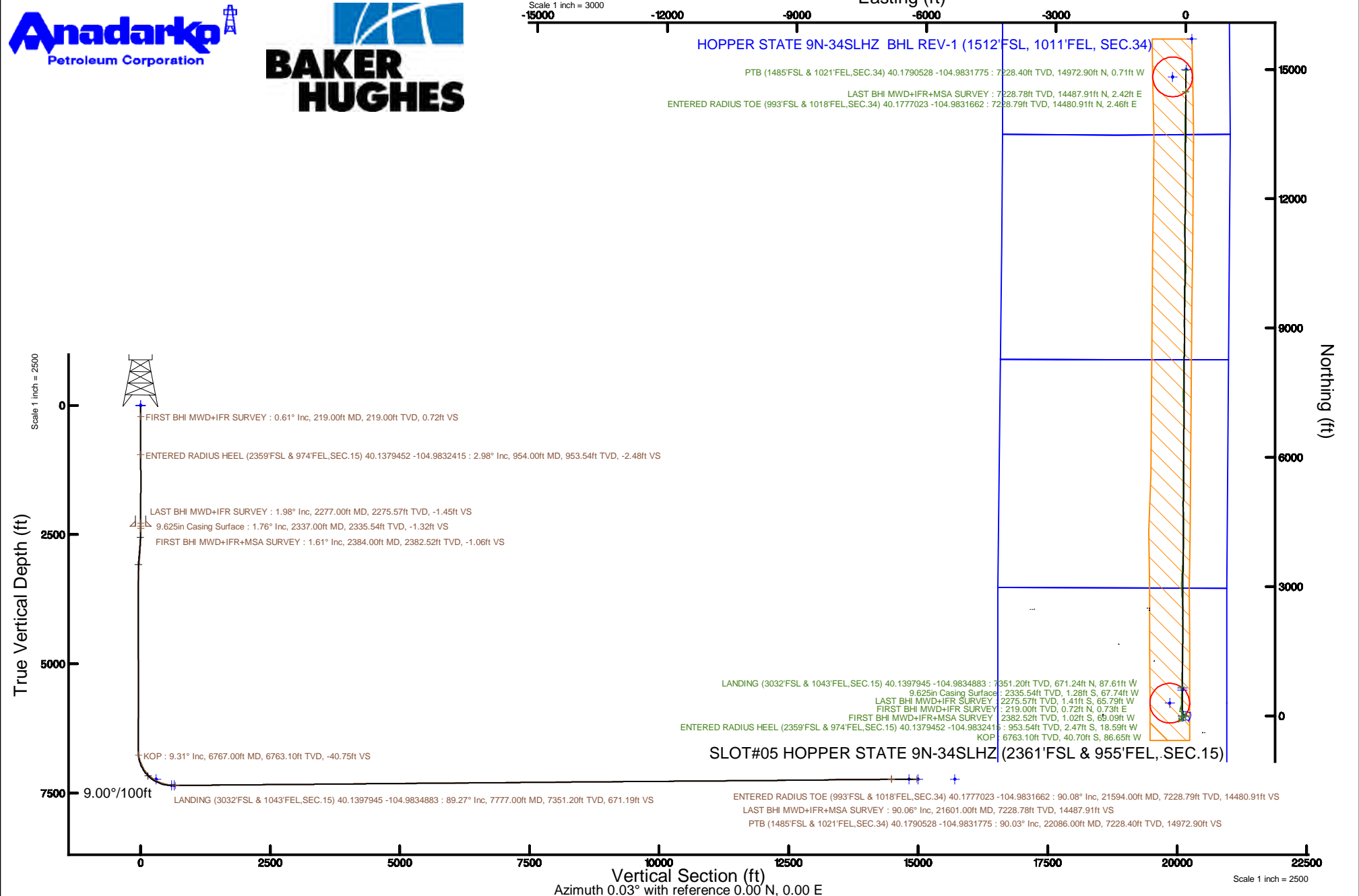


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#05 HOPPER STATE 9N-34SLHZ (2361°FSL & 955°FEL, SEC.15)
Field: WELD COUNTY (UTM/TRUE NORTH) Well: HOPPER STATE 9N-34SLHZ
Facility: SEC.15-T2N-R68W Wellbore: HOPPER STATE 9N-34SLHZ PWB

Plot reference wellpath is HOPPER STATE 9N-34SLHZ REV D.0 PWP	Grid System: NAD83 / UTM Zone 13 North, US feet
True vertical depths are referenced to PRECISION 564 (26) (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to PRECISION 564 (26) (RKB)	North Reference: True north
PRECISION 564 (26) (RKB) to Mean Sea Level: 4919 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#05 HOPPER STATE 9N-34SLHZ (2361°FSL & 955°FEL, SEC.15)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: pairsetr on 2017-03-21
	Database: WA_DEN_Anadarko_Defn



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361'FSL & 955'FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWP
Facility	SEC.15-T2N-R68W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999600	Report Generated	3/21/2017 at 8:28 AM
Convergence at slot	0.02° East	Database/Source file	WA_DEN_Anadarko_Defn/HOPPER_STATE_9N-34SLHZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	397.79	-390.04	1645119.03	14576968.40	40°08'16.627"N	104°58'59.430"W
Facility Reference Pt			1645508.99	14576570.84	40°08'12.696"N	104°58'54.408"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	PRECISION 564 (26') (RKB) to Facility Vertical Datum	4919.00ft
Horizontal Reference Pt	Slot	PRECISION 564 (26') (RKB) to Mean Sea Level	4919.00ft
Vertical Reference Pt	PRECISION 564 (26') (RKB)	PRECISION 564 (26') (RKB) to Mud Line at Slot (SLOT#05 HOPPER STATE 9N-34SLHZ (2361'FSL & 955'FEL, SEC.15))	4919.00ft
MD Reference Pt	PRECISION 564 (26') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	360.00°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361°FSL & 955°FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWB
Facility	SEC.15-T2N-R68W		

WELLPATH DATA (246 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	45.630	0.00	0.00	0.00	0.00	1645119.03	14576968.40	40°08'16.627°N	104°58'59.430°W	0.00	
26.00	0.000	45.630	26.00	0.00	0.00	0.00	1645119.03	14576968.40	40°08'16.627°N	104°58'59.430°W	0.00	
219.00	0.610	45.630	219.00	0.72	0.72	0.73	1645119.76	14576969.12	40°08'16.634°N	104°58'59.421°W	0.32	FIRST BHI MWD+IFR SURVEY
312.00	0.030	99.360	311.99	1.06	1.06	1.11	1645120.14	14576969.46	40°08'16.637°N	104°58'59.416°W	0.64	
406.00	0.570	236.290	405.99	0.80	0.80	0.75	1645119.78	14576969.19	40°08'16.635°N	104°58'59.420°W	0.63	
498.00	0.680	235.160	497.99	0.23	0.23	-0.08	1645118.95	14576968.63	40°08'16.629°N	104°58'59.431°W	0.12	
591.00	1.240	247.410	590.97	-0.47	-0.47	-1.46	1645117.57	14576967.93	40°08'16.622°N	104°58'59.449°W	0.64	
684.00	2.590	258.510	683.92	-1.28	-1.28	-4.45	1645114.58	14576967.12	40°08'16.614°N	104°58'59.487°W	1.50	
774.00	2.890	263.880	773.82	-1.92	-1.92	-8.70	1645110.33	14576966.47	40°08'16.608°N	104°58'59.542°W	0.44	
863.00	3.380	267.820	862.68	-2.26	-2.26	-13.55	1645105.48	14576966.13	40°08'16.605°N	104°58'59.604°W	0.60	
953.00	2.980	267.340	952.55	-2.47	-2.47	-18.54	1645100.50	14576965.92	40°08'16.603°N	104°58'59.669°W	0.45	
954.00†	2.978	267.484	953.54	-2.47	-2.47	-18.59	1645100.44	14576965.92	40°08'16.603°N	104°58'59.669°W	0.79	ENTERED RADIUS HEEL (2359°FSL & 974°FEL, SEC.15) 40.1379452 -104.9832415
1043.00	2.840	281.100	1042.43	-2.15	-2.15	-23.07	1645095.97	14576966.24	40°08'16.606°N	104°58'59.727°W	0.79	
1132.00	1.870	303.350	1131.36	-0.93	-0.93	-26.44	1645092.60	14576967.47	40°08'16.618°N	104°58'59.770°W	1.48	
1222.00	1.720	314.040	1221.31	0.82	0.82	-28.64	1645090.40	14576969.21	40°08'16.635°N	104°58'59.799°W	0.41	
1311.00	1.880	308.420	1310.27	2.66	2.65	-30.74	1645088.30	14576971.04	40°08'16.653°N	104°58'59.826°W	0.27	
1401.00	1.730	291.760	1400.22	4.08	4.08	-33.16	1645085.88	14576972.46	40°08'16.667°N	104°58'59.857°W	0.60	
1491.00	1.750	251.710	1490.19	4.15	4.15	-35.73	1645083.31	14576972.54	40°08'16.668°N	104°58'59.890°W	1.32	
1580.00	2.200	248.530	1579.13	3.10	3.10	-38.61	1645080.43	14576971.48	40°08'16.658°N	104°58'59.927°W	0.52	
1670.00	2.170	252.830	1669.07	1.96	1.96	-41.84	1645077.20	14576970.35	40°08'16.646°N	104°58'59.969°W	0.19	
1759.00	2.160	254.600	1758.00	1.02	1.02	-45.07	1645073.97	14576969.41	40°08'16.637°N	104°59'00.010°W	0.08	
1849.00	2.300	246.890	1847.94	-0.14	-0.14	-48.37	1645070.68	14576968.25	40°08'16.626°N	104°59'00.053°W	0.37	
1939.00	2.440	266.350	1937.86	-0.97	-0.97	-51.94	1645067.11	14576967.42	40°08'16.617°N	104°59'00.099°W	0.90	
2028.00	2.440	271.370	2026.78	-1.04	-1.05	-55.73	1645063.33	14576967.34	40°08'16.617°N	104°59'00.147°W	0.24	
2118.00	2.610	265.890	2116.69	-1.15	-1.15	-59.68	1645059.37	14576967.24	40°08'16.616°N	104°59'00.198°W	0.33	
2208.00	2.070	267.430	2206.62	-1.37	-1.37	-63.35	1645055.70	14576967.02	40°08'16.613°N	104°59'00.246°W	0.60	
2277.00	1.980	270.470	2275.57	-1.41	-1.41	-65.79	1645053.27	14576966.97	40°08'16.613°N	104°59'00.277°W	0.20	LAST BHI MWD+IFR SURVEY
2384.00	1.610	284.480	2382.52	-1.02	-1.02	-69.09	1645049.96	14576967.36	40°08'16.617°N	104°59'00.320°W	0.53	FIRST BHI MWD+IFR+MSA SURVEY
2473.00	1.640	271.070	2471.49	-0.68	-0.69	-71.58	1645047.48	14576967.70	40°08'16.620°N	104°59'00.352°W	0.43	
2563.00	1.610	237.740	2561.45	-1.33	-1.34	-73.93	1645045.12	14576967.05	40°08'16.614°N	104°59'00.382°W	1.04	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361°FSL & 955°FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWB
Facility	SEC.15-T2N-R68W		

WELLPATH DATA (246 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
2653.00	2.190	213.150	2651.40	-3.45	-3.45	-75.94	1645043.12	14576964.93	40°08'16.593"N	104°59'00.408"W	1.10	
2742.00	3.060	202.730	2740.31	-7.06	-7.07	-77.79	1645041.27	14576961.32	40°08'16.557"N	104°59'00.432"W	1.11	
2832.00	4.030	196.650	2830.14	-12.31	-12.31	-79.63	1645039.44	14576956.07	40°08'16.505"N	104°59'00.455"W	1.15	
2921.00	4.920	184.240	2918.87	-19.11	-19.12	-80.80	1645038.26	14576949.27	40°08'16.438"N	104°59'00.470"W	1.47	
3011.00	4.580	181.970	3008.56	-26.55	-26.56	-81.21	1645037.85	14576941.84	40°08'16.365"N	104°59'00.476"W	0.43	
3100.00	4.160	190.040	3097.30	-33.28	-33.29	-81.90	1645037.17	14576935.11	40°08'16.298"N	104°59'00.484"W	0.84	
3190.00	3.470	197.770	3187.10	-39.09	-39.09	-83.30	1645035.77	14576929.30	40°08'16.241"N	104°59'00.503"W	0.95	
3279.00	2.710	196.620	3275.97	-43.67	-43.67	-84.72	1645034.35	14576924.72	40°08'16.195"N	104°59'00.521"W	0.86	
3369.00	2.010	194.930	3365.89	-47.23	-47.24	-85.74	1645033.33	14576921.16	40°08'16.160"N	104°59'00.534"W	0.78	
3459.00	1.390	190.860	3455.85	-49.83	-49.84	-86.35	1645032.72	14576918.57	40°08'16.135"N	104°59'00.542"W	0.70	
3548.00	0.650	160.880	3544.84	-51.37	-51.37	-86.39	1645032.69	14576917.03	40°08'16.119"N	104°59'00.542"W	1.00	
3638.00	0.860	124.510	3634.83	-52.23	-52.24	-85.66	1645033.41	14576916.16	40°08'16.111"N	104°59'00.533"W	0.57	
3727.00	0.770	106.520	3723.82	-52.78	-52.79	-84.54	1645034.53	14576915.62	40°08'16.105"N	104°59'00.518"W	0.30	
3816.00	0.370	104.550	3812.82	-53.02	-53.03	-83.69	1645035.38	14576915.37	40°08'16.103"N	104°59'00.508"W	0.45	
3906.00	0.280	94.390	3902.82	-53.11	-53.12	-83.19	1645035.88	14576915.28	40°08'16.102"N	104°59'00.501"W	0.12	
3996.00	0.280	84.940	3992.82	-53.11	-53.12	-82.75	1645036.32	14576915.29	40°08'16.102"N	104°59'00.495"W	0.05	
4085.00	0.870	96.550	4081.81	-53.17	-53.17	-81.86	1645037.21	14576915.23	40°08'16.102"N	104°59'00.484"W	0.67	
4174.00	1.690	87.450	4170.79	-53.19	-53.19	-79.88	1645039.19	14576915.21	40°08'16.101"N	104°59'00.458"W	0.95	
4264.00	0.630	68.240	4260.77	-52.95	-52.95	-78.09	1645040.98	14576915.45	40°08'16.104"N	104°59'00.435"W	1.24	
4353.00	0.840	28.800	4349.76	-52.19	-52.20	-77.32	1645041.74	14576916.21	40°08'16.111"N	104°59'00.426"W	0.60	
4443.00	1.020	9.260	4439.75	-50.82	-50.83	-76.88	1645042.19	14576917.57	40°08'16.125"N	104°59'00.420"W	0.40	
4532.00	0.370	333.920	4528.74	-49.78	-49.79	-76.88	1645042.19	14576918.61	40°08'16.135"N	104°59'00.420"W	0.84	
4622.00	0.420	284.500	4618.74	-49.44	-49.44	-77.32	1645041.74	14576918.96	40°08'16.138"N	104°59'00.426"W	0.37	
4711.00	0.340	266.310	4707.74	-49.38	-49.38	-77.90	1645041.17	14576919.02	40°08'16.139"N	104°59'00.433"W	0.16	
4800.00	0.390	310.670	4796.74	-49.20	-49.20	-78.40	1645040.67	14576919.20	40°08'16.141"N	104°59'00.439"W	0.31	
4890.00	0.770	313.600	4886.73	-48.58	-48.58	-79.07	1645040.00	14576919.82	40°08'16.147"N	104°59'00.448"W	0.42	
4980.00	0.750	282.050	4976.73	-48.04	-48.04	-80.08	1645038.99	14576920.36	40°08'16.152"N	104°59'00.461"W	0.46	
5069.00	0.900	289.540	5065.72	-47.68	-47.69	-81.31	1645037.76	14576920.71	40°08'16.156"N	104°59'00.477"W	0.21	
5159.00	0.950	305.580	5155.70	-47.01	-47.02	-82.58	1645036.49	14576921.38	40°08'16.162"N	104°59'00.493"W	0.29	
5248.00	1.050	306.510	5244.69	-46.10	-46.10	-83.84	1645035.23	14576922.30	40°08'16.171"N	104°59'00.509"W	0.11	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361'FSL & 955'FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWB
Facility	SEC.15-T2N-R68W		

WELLPATH DATA (246 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
5337.00	1.070	309.060	5333.68	-45.09	-45.09	-85.14	1645033.93	14576923.31	40°08'16.181"N	104°59'00.526"W	0.06	
5427.00	0.350	299.610	5423.67	-44.42	-44.43	-86.03	1645033.04	14576923.97	40°08'16.188"N	104°59'00.538"W	0.81	
5517.00	0.190	291.580	5513.67	-44.23	-44.24	-86.41	1645032.66	14576924.16	40°08'16.190"N	104°59'00.543"W	0.18	
5606.00	0.290	251.810	5602.67	-44.25	-44.25	-86.76	1645032.31	14576924.14	40°08'16.190"N	104°59'00.547"W	0.21	
5695.00	0.400	153.700	5691.67	-44.60	-44.60	-86.84	1645032.24	14576923.80	40°08'16.186"N	104°59'00.548"W	0.59	
5785.00	0.780	121.980	5781.66	-45.20	-45.21	-86.18	1645032.89	14576923.19	40°08'16.180"N	104°59'00.540"W	0.54	
5875.00	1.070	136.440	5871.65	-46.14	-46.14	-85.08	1645033.99	14576922.26	40°08'16.171"N	104°59'00.525"W	0.41	
5964.00	0.810	157.830	5960.64	-47.32	-47.33	-84.27	1645034.80	14576921.07	40°08'16.159"N	104°59'00.515"W	0.49	
6054.00	0.490	161.790	6050.63	-48.28	-48.28	-83.91	1645035.16	14576920.12	40°08'16.150"N	104°59'00.510"W	0.36	
6143.00	0.390	158.400	6139.63	-48.92	-48.92	-83.68	1645035.39	14576919.48	40°08'16.144"N	104°59'00.507"W	0.12	
6233.00	0.290	179.300	6229.63	-49.43	-49.44	-83.56	1645035.51	14576918.96	40°08'16.138"N	104°59'00.506"W	0.18	
6322.00	0.330	187.150	6318.63	-49.91	-49.92	-83.59	1645035.48	14576918.48	40°08'16.134"N	104°59'00.506"W	0.07	
6412.00	0.250	184.410	6408.63	-50.37	-50.37	-83.64	1645035.43	14576918.03	40°08'16.129"N	104°59'00.507"W	0.09	
6501.00	0.280	178.580	6497.62	-50.78	-50.78	-83.65	1645035.42	14576917.62	40°08'16.125"N	104°59'00.507"W	0.05	
6591.00	0.260	195.770	6587.62	-51.19	-51.20	-83.70	1645035.37	14576917.20	40°08'16.121"N	104°59'00.508"W	0.09	
6713.00	4.440	340.630	6709.51	-47.00	-47.01	-85.34	1645033.73	14576921.39	40°08'16.162"N	104°59'00.529"W	3.82	
6767.00†	9.312	351.895	6763.10	-40.70	-40.70	-86.65	1645032.42	14576927.69	40°08'16.225"N	104°59'00.546"W	9.32	KOP
6803.00	12.630	354.540	6798.44	-33.90	-33.90	-87.44	1645031.63	14576934.49	40°08'16.292"N	104°59'00.556"W	9.32	
6892.00	19.720	2.320	6883.87	-9.17	-9.18	-87.75	1645031.31	14576959.21	40°08'16.536"N	104°59'00.560"W	8.31	
6982.00	25.300	2.360	6966.98	25.24	25.24	-86.35	1645032.71	14576993.61	40°08'16.876"N	104°59'00.542"W	6.20	
7071.00	32.530	347.360	7044.94	67.70	67.70	-90.81	1645028.24	14577036.05	40°08'17.296"N	104°59'00.599"W	11.45	
7161.00	40.590	354.470	7117.20	120.57	120.56	-98.94	1645020.10	14577088.89	40°08'17.818"N	104°59'00.704"W	10.10	
7251.00	49.880	0.030	7180.54	184.29	184.28	-101.76	1645017.28	14577152.59	40°08'18.448"N	104°59'00.740"W	11.21	
7340.00	58.130	1.340	7232.80	256.22	256.22	-100.85	1645018.17	14577224.49	40°08'19.159"N	104°59'00.729"W	9.35	
7430.00	64.580	1.610	7275.92	335.14	335.14	-98.81	1645020.19	14577303.38	40°08'19.939"N	104°59'00.702"W	7.17	
7519.00	72.530	2.480	7308.44	417.86	417.85	-95.84	1645023.14	14577386.06	40°08'20.756"N	104°59'00.664"W	8.98	
7609.00	77.910	2.550	7331.39	504.76	504.76	-92.03	1645026.94	14577472.94	40°08'21.615"N	104°59'00.615"W	5.98	
7698.00	83.180	1.410	7346.00	592.47	592.47	-89.00	1645029.95	14577560.61	40°08'22.482"N	104°59'00.576"W	6.05	
7777.00†	89.272	0.619	7351.20	671.25	671.24	-87.61	1645031.33	14577639.36	40°08'23.260"N	104°59'00.558"W	7.78	LANDING (3032'FSL & 1043'FEL, SEC.15) 40.1397945 -104.9834883
7788.00	90.120	0.510	7351.26	682.25	682.24	-87.50	1645031.44	14577650.35	40°08'23.369"N	104°59'00.557"W	7.78	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361'FSL & 955'FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWB
Facility	SEC.15-T2N-R68W		

WELLPATH DATA (246 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
7877.00	90.340	0.390	7350.90	771.24	771.24	-86.80	1645032.12	14577739.31	40°08'24.248"N	104°59'00.548"W	0.28	
7967.00	90.370	1.060	7350.34	861.23	861.23	-85.66	1645033.24	14577829.27	40°08'25.138"N	104°59'00.533"W	0.75	
8057.00	90.490	1.970	7349.67	951.20	951.20	-83.28	1645035.60	14577919.19	40°08'26.027"N	104°59'00.502"W	1.02	
8146.00	90.460	1.760	7348.93	1040.15	1040.15	-80.39	1645038.48	14578008.11	40°08'26.906"N	104°59'00.465"W	0.24	
8236.00	90.580	3.280	7348.11	1130.06	1130.05	-76.43	1645042.42	14578097.98	40°08'27.794"N	104°59'00.414"W	1.69	
8325.00	90.490	3.220	7347.28	1218.91	1218.91	-71.38	1645047.44	14578186.80	40°08'28.672"N	104°59'00.349"W	0.12	
8414.00	90.580	2.610	7346.45	1307.79	1307.79	-66.86	1645051.95	14578275.64	40°08'29.551"N	104°59'00.291"W	0.69	
8503.00	90.340	1.530	7345.74	1396.73	1396.72	-63.64	1645055.15	14578364.55	40°08'30.430"N	104°59'00.249"W	1.24	
8593.00	90.580	0.050	7345.01	1486.71	1486.71	-62.40	1645056.37	14578454.50	40°08'31.319"N	104°59'00.234"W	1.67	
8682.00	90.520	359.570	7344.16	1575.71	1575.70	-62.70	1645056.06	14578543.46	40°08'32.198"N	104°59'00.237"W	0.54	
8772.00	90.550	359.670	7343.32	1665.70	1665.70	-63.29	1645055.44	14578633.41	40°08'33.088"N	104°59'00.245"W	0.12	
8861.00	90.520	0.150	7342.49	1754.70	1754.69	-63.43	1645055.29	14578722.37	40°08'33.967"N	104°59'00.247"W	0.54	
8950.00	90.580	0.320	7341.63	1843.69	1843.69	-63.07	1645055.64	14578811.33	40°08'34.846"N	104°59'00.242"W	0.20	
9040.00	90.460	358.500	7340.82	1933.68	1933.68	-64.00	1645054.69	14578901.29	40°08'35.736"N	104°59'00.254"W	2.03	
9129.00	90.430	358.350	7340.13	2022.64	2022.64	-66.44	1645052.23	14578990.21	40°08'36.615"N	104°59'00.286"W	0.17	
9218.00	90.580	358.380	7339.34	2111.60	2111.60	-68.98	1645049.68	14579079.14	40°08'37.494"N	104°59'00.318"W	0.17	
9308.00	90.650	359.160	7338.38	2201.58	2201.57	-70.91	1645047.73	14579169.07	40°08'38.383"N	104°59'00.343"W	0.87	
9397.00	90.650	0.310	7337.37	2290.57	2290.57	-71.32	1645047.30	14579258.03	40°08'39.263"N	104°59'00.348"W	1.29	
9486.00	90.490	0.470	7336.48	2379.56	2379.56	-70.72	1645047.89	14579346.99	40°08'40.142"N	104°59'00.341"W	0.25	
9576.00	90.680	0.040	7335.56	2469.56	2469.55	-70.32	1645048.27	14579436.95	40°08'41.031"N	104°59'00.335"W	0.52	
9665.00	90.520	358.150	7334.63	2558.54	2558.53	-71.72	1645046.85	14579525.89	40°08'41.911"N	104°59'00.354"W	2.13	
9754.00	90.620	357.270	7333.74	2647.46	2647.46	-75.28	1645043.28	14579614.78	40°08'42.789"N	104°59'00.399"W	1.00	
9844.00	90.490	356.410	7332.87	2737.32	2737.32	-80.24	1645038.30	14579704.60	40°08'43.677"N	104°59'00.463"W	0.97	
9933.00	90.490	356.220	7332.11	2826.13	2826.13	-85.96	1645032.57	14579793.37	40°08'44.555"N	104°59'00.537"W	0.21	
10023.00	90.370	357.450	7331.44	2915.99	2915.99	-90.93	1645027.58	14579883.19	40°08'45.443"N	104°59'00.601"W	1.37	
10112.00	90.620	359.400	7330.67	3004.95	3004.95	-93.38	1645025.12	14579972.12	40°08'46.322"N	104°59'00.632"W	2.21	
10201.00	90.400	2.530	7329.87	3093.92	3093.92	-91.88	1645026.60	14580061.05	40°08'47.201"N	104°59'00.613"W	3.53	
10291.00	90.400	1.750	7329.25	3183.86	3183.85	-88.52	1645029.95	14580150.95	40°08'48.090"N	104°59'00.570"W	0.87	
10380.00	90.520	4.270	7328.53	3272.72	3272.72	-83.84	1645034.60	14580239.79	40°08'48.968"N	104°59'00.510"W	2.83	
10470.00	90.430	3.920	7327.79	3362.49	3362.49	-77.42	1645041.01	14580329.52	40°08'49.855"N	104°59'00.427"W	0.40	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361°FSL & 955°FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWB
Facility	SEC.15-T2N-R68W		

WELLPATH DATA (246 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
10559.00	90.520	1.990	7327.05	3451.36	3451.36	-72.83	1645045.58	14580418.36	40°08'50.734"N	104°59'00.368"W	2.17	
10648.00	90.430	2.080	7326.31	3540.31	3540.30	-69.67	1645048.72	14580507.26	40°08'51.613"N	104°59'00.327"W	0.14	
10738.00	90.650	2.570	7325.46	3630.23	3630.22	-66.02	1645052.35	14580597.15	40°08'52.501"N	104°59'00.280"W	0.60	
10827.00	90.770	3.520	7324.36	3719.09	3719.09	-61.29	1645057.06	14580685.98	40°08'53.379"N	104°59'00.219"W	1.08	
10916.00	90.680	4.250	7323.23	3807.88	3807.88	-55.26	1645063.07	14580774.73	40°08'54.257"N	104°59'00.142"W	0.83	
11006.00	90.680	3.890	7322.16	3897.65	3897.64	-48.87	1645069.44	14580864.47	40°08'55.144"N	104°59'00.059"W	0.40	
11095.00	90.740	0.750	7321.06	3986.56	3986.55	-45.27	1645073.02	14580953.34	40°08'56.022"N	104°59'00.013"W	3.53	
11184.00	90.740	0.140	7319.91	4075.55	4075.54	-44.58	1645073.70	14581042.29	40°08'56.902"N	104°59'00.004"W	0.69	
11274.00	90.520	359.160	7318.92	4165.54	4165.53	-45.13	1645073.13	14581132.25	40°08'57.791"N	104°59'00.011"W	1.12	
11363.00	90.580	359.560	7318.07	4254.53	4254.52	-46.12	1645072.12	14581221.20	40°08'58.671"N	104°59'00.024"W	0.45	
11453.00	90.430	357.610	7317.27	4344.49	4344.49	-48.35	1645069.88	14581311.13	40°08'59.560"N	104°59'00.053"W	2.17	
11542.00	90.580	359.590	7316.49	4433.46	4433.46	-50.52	1645067.69	14581400.06	40°09'00.439"N	104°59'00.081"W	2.23	
11632.00	90.520	3.280	7315.63	4523.41	4523.41	-48.27	1645069.92	14581489.98	40°09'01.328"N	104°59'00.052"W	4.10	
11721.00	90.370	1.090	7314.93	4612.34	4612.33	-44.87	1645073.30	14581578.87	40°09'02.206"N	104°59'00.008"W	2.47	
11811.00	90.310	354.660	7314.40	4702.23	4702.22	-48.21	1645069.95	14581668.72	40°09'03.095"N	104°59'00.051"W	7.14	
11901.00	90.340	353.700	7313.89	4791.76	4791.76	-57.34	1645060.81	14581758.22	40°09'03.980"N	104°59'00.168"W	1.07	
11991.00	90.580	358.620	7313.17	4881.53	4881.52	-63.36	1645054.77	14581847.95	40°09'04.867"N	104°59'00.246"W	5.47	
12080.00	90.460	3.530	7312.36	4970.48	4970.48	-61.69	1645056.42	14581936.87	40°09'05.746"N	104°59'00.224"W	5.52	
12170.00	90.490	1.670	7311.61	5060.38	5060.38	-57.61	1645060.48	14582026.73	40°09'06.634"N	104°59'00.172"W	2.07	
12259.00	90.620	0.360	7310.75	5149.36	5149.36	-56.03	1645062.04	14582115.67	40°09'07.513"N	104°59'00.152"W	1.48	
12349.00	90.310	359.720	7310.02	5239.36	5239.35	-55.97	1645062.09	14582205.64	40°09'08.403"N	104°59'00.151"W	0.79	
12439.00	90.520	358.090	7309.37	5329.34	5329.33	-57.69	1645060.35	14582295.58	40°09'09.292"N	104°59'00.173"W	1.83	
12528.00	90.650	0.520	7308.46	5418.32	5418.31	-58.77	1645059.26	14582384.52	40°09'10.171"N	104°59'00.187"W	2.73	
12618.00	90.490	3.280	7307.56	5508.25	5508.25	-55.79	1645062.22	14582474.42	40°09'11.060"N	104°59'00.148"W	3.07	
12708.00	90.430	1.000	7306.84	5598.18	5598.18	-52.43	1645065.56	14582564.32	40°09'11.949"N	104°59'00.105"W	2.53	
12797.00	90.490	357.680	7306.13	5687.16	5687.16	-53.45	1645064.52	14582653.26	40°09'12.828"N	104°59'00.118"W	3.73	
12887.00	90.460	359.580	7305.38	5777.13	5777.13	-55.60	1645062.36	14582743.19	40°09'13.717"N	104°59'00.146"W	2.11	
12976.00	90.580	3.210	7304.57	5866.08	5866.08	-53.44	1645064.50	14582832.11	40°09'14.596"N	104°59'00.118"W	4.08	
13066.00	90.550	2.040	7303.68	5955.98	5955.98	-49.31	1645068.61	14582921.97	40°09'15.484"N	104°59'00.065"W	1.30	
13155.00	90.400	1.240	7302.95	6044.94	6044.94	-46.77	1645071.14	14583010.90	40°09'16.364"N	104°59'00.032"W	0.91	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361'FSL & 955'FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWB
Facility	SEC.15-T2N-R68W		

WELLPATH DATA (246 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
13245.00	90.520	0.700	7302.22	6134.93	6134.92	-45.24	1645072.64	14583100.85	40°09'17.253"N	104°59'00.013"W	0.61	
13335.00	90.430	0.250	7301.48	6224.92	6224.92	-44.50	1645073.37	14583190.80	40°09'18.142"N	104°59'00.003"W	0.51	
13424.00	90.430	359.450	7300.81	6313.92	6313.91	-44.73	1645073.12	14583279.77	40°09'19.022"N	104°59'00.006"W	0.90	
13514.00	90.400	0.610	7300.16	6403.91	6403.91	-44.68	1645073.15	14583369.73	40°09'19.911"N	104°59'00.005"W	1.29	
13605.00	90.400	1.000	7299.52	6494.90	6494.90	-43.40	1645074.41	14583460.68	40°09'20.810"N	104°58'59.989"W	0.43	
13695.00	90.550	0.410	7298.78	6584.89	6584.89	-42.30	1645075.50	14583550.63	40°09'21.699"N	104°58'59.975"W	0.68	
13784.00	90.490	0.290	7297.97	6673.89	6673.88	-41.75	1645076.03	14583639.59	40°09'22.579"N	104°58'59.968"W	0.15	
13874.00	90.580	0.040	7297.13	6763.88	6763.88	-41.49	1645076.27	14583729.55	40°09'23.468"N	104°58'59.964"W	0.30	
13964.00	90.490	359.440	7296.29	6853.88	6853.87	-41.90	1645075.85	14583819.51	40°09'24.357"N	104°58'59.970"W	0.67	
14053.00	90.590	358.870	7295.45	6942.86	6942.86	-43.22	1645074.52	14583908.46	40°09'25.237"N	104°58'59.987"W	0.65	
14143.00	90.520	358.770	7294.58	7032.84	7032.84	-45.07	1645072.65	14583998.40	40°09'26.126"N	104°59'00.010"W	0.14	
14232.00	90.580	358.560	7293.72	7121.81	7121.81	-47.14	1645070.56	14584087.33	40°09'27.005"N	104°59'00.037"W	0.25	
14322.00	90.520	358.190	7292.86	7211.77	7211.77	-49.69	1645067.99	14584177.26	40°09'27.894"N	104°59'00.070"W	0.42	
14412.00	90.550	359.320	7292.02	7301.74	7301.74	-51.65	1645066.02	14584267.19	40°09'28.783"N	104°59'00.095"W	1.26	
14502.00	90.490	359.930	7291.20	7391.74	7391.74	-52.24	1645065.41	14584357.15	40°09'29.673"N	104°59'00.103"W	0.68	
14591.00	90.580	0.190	7290.37	7480.73	7480.73	-52.15	1645065.49	14584446.11	40°09'30.552"N	104°59'00.102"W	0.31	
14680.00	90.460	1.030	7289.56	7569.72	7569.72	-51.20	1645066.42	14584535.07	40°09'31.432"N	104°59'00.089"W	0.95	
14770.00	90.370	1.070	7288.91	7659.71	7659.70	-49.55	1645068.05	14584625.01	40°09'32.321"N	104°59'00.068"W	0.11	
14860.00	90.430	0.420	7288.28	7749.70	7749.69	-48.38	1645069.20	14584714.97	40°09'33.210"N	104°59'00.053"W	0.73	
14949.00	90.490	359.510	7287.57	7838.69	7838.69	-48.43	1645069.13	14584803.93	40°09'34.089"N	104°59'00.054"W	1.02	
15039.00	90.460	359.830	7286.82	7928.69	7928.69	-48.95	1645068.60	14584893.89	40°09'34.979"N	104°59'00.060"W	0.36	
15128.00	90.620	0.640	7285.98	8017.68	8017.68	-48.59	1645068.94	14584982.85	40°09'35.858"N	104°59'00.056"W	0.93	
15218.00	90.400	1.260	7285.18	8107.67	8107.66	-47.09	1645070.42	14585072.79	40°09'36.747"N	104°59'00.037"W	0.73	
15308.00	90.430	1.370	7284.53	8197.64	8197.64	-45.03	1645072.47	14585162.73	40°09'37.637"N	104°59'00.010"W	0.13	
15397.00	90.650	1.250	7283.69	8286.61	8286.61	-42.99	1645074.48	14585251.67	40°09'38.516"N	104°58'59.984"W	0.28	
15487.00	90.650	2.380	7282.67	8376.56	8376.56	-40.14	1645077.32	14585341.58	40°09'39.405"N	104°58'59.947"W	1.26	
15576.00	90.460	1.860	7281.81	8465.49	8465.49	-36.85	1645080.59	14585430.48	40°09'40.284"N	104°58'59.905"W	0.62	
15670.00	90.280	1.700	7281.20	8559.45	8559.45	-33.93	1645083.49	14585524.40	40°09'41.212"N	104°58'59.867"W	0.26	
15764.00	90.280	1.540	7280.74	8653.41	8653.41	-31.27	1645086.13	14585618.32	40°09'42.141"N	104°58'59.833"W	0.17	
15855.00	90.370	0.860	7280.23	8744.39	8744.38	-29.37	1645088.02	14585709.26	40°09'43.040"N	104°58'59.808"W	0.75	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361°FSL & 955°FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWB
Facility	SEC.15-T2N-R68W		

WELLPATH DATA (246 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
15949.00	90.460	1.060	7279.54	8838.37	8838.37	-27.79	1645089.57	14585803.21	40°09'43.968"N	104°58'59.788"W	0.23	
16042.00	90.430	357.850	7278.82	8931.35	8931.35	-28.68	1645088.67	14585896.15	40°09'44.887"N	104°58'59.799"W	3.45	
16132.00	90.340	358.610	7278.22	9021.31	9021.30	-31.46	1645085.88	14585986.07	40°09'45.776"N	104°58'59.835"W	0.85	
16221.00	90.180	0.120	7277.81	9110.30	9110.29	-32.44	1645084.87	14586075.02	40°09'46.656"N	104°58'59.848"W	1.71	
16311.00	90.280	1.300	7277.45	9200.29	9200.29	-31.33	1645085.97	14586164.98	40°09'47.545"N	104°58'59.834"W	1.32	
16401.00	90.370	2.090	7276.94	9290.25	9290.24	-28.67	1645088.61	14586254.90	40°09'48.434"N	104°58'59.799"W	0.88	
16490.00	90.220	2.240	7276.48	9379.18	9379.18	-25.31	1645091.96	14586343.80	40°09'49.313"N	104°58'59.756"W	0.24	
16580.00	90.460	2.160	7275.95	9469.11	9469.11	-21.85	1645095.40	14586433.70	40°09'50.201"N	104°58'59.711"W	0.28	
16669.00	90.580	2.550	7275.14	9558.03	9558.03	-18.19	1645099.03	14586522.58	40°09'51.080"N	104°58'59.664"W	0.46	
16759.00	90.400	1.170	7274.37	9647.98	9647.98	-15.27	1645101.94	14586612.50	40°09'51.969"N	104°58'59.627"W	1.55	
16848.00	90.460	0.540	7273.70	9736.97	9736.97	-13.94	1645103.25	14586701.45	40°09'52.848"N	104°58'59.610"W	0.71	
16938.00	90.370	0.610	7273.05	9826.96	9826.96	-13.04	1645104.13	14586791.40	40°09'53.738"N	104°58'59.598"W	0.13	
17028.00	90.650	0.930	7272.25	9916.95	9916.95	-11.83	1645105.32	14586881.36	40°09'54.627"N	104°58'59.582"W	0.47	
17117.00	90.550	1.240	7271.32	10005.93	10005.93	-10.15	1645106.99	14586970.30	40°09'55.506"N	104°58'59.561"W	0.37	
17207.00	90.680	2.410	7270.35	10095.87	10095.87	-7.28	1645109.84	14587060.21	40°09'56.395"N	104°58'59.524"W	1.31	
17296.00	90.370	2.130	7269.54	10184.80	10184.80	-3.76	1645113.35	14587149.10	40°09'57.274"N	104°58'59.478"W	0.47	
17386.00	90.400	1.280	7268.93	10274.76	10274.76	-1.08	1645116.01	14587239.02	40°09'58.163"N	104°58'59.444"W	0.95	
17476.00	90.520	0.250	7268.21	10364.75	10364.75	0.12	1645117.19	14587328.98	40°09'59.052"N	104°58'59.428"W	1.15	
17565.00	90.340	359.050	7267.54	10453.74	10453.74	-0.42	1645116.63	14587417.93	40°09'59.931"N	104°58'59.435"W	1.36	
17655.00	90.430	358.320	7266.94	10543.71	10543.71	-2.49	1645114.55	14587507.87	40°10'00.821"N	104°58'59.462"W	0.82	
17744.00	90.550	358.290	7266.18	10632.67	10632.67	-5.12	1645111.90	14587596.79	40°10'01.700"N	104°58'59.496"W	0.14	
17834.00	90.550	358.140	7265.31	10722.62	10722.62	-7.92	1645109.08	14587686.71	40°10'02.589"N	104°58'59.532"W	0.17	
17923.00	90.430	358.290	7264.55	10811.58	10811.58	-10.69	1645106.29	14587775.63	40°10'03.468"N	104°58'59.568"W	0.22	
18013.00	90.340	357.050	7263.95	10901.50	10901.50	-14.35	1645102.62	14587865.51	40°10'04.356"N	104°58'59.615"W	1.38	
18103.00	90.340	357.990	7263.41	10991.41	10991.41	-18.25	1645098.71	14587955.39	40°10'05.245"N	104°58'59.665"W	1.04	
18193.00	90.340	358.630	7262.88	11081.37	11081.37	-20.90	1645096.04	14588045.31	40°10'06.134"N	104°58'59.699"W	0.71	
18283.00	90.400	358.600	7262.30	11171.34	11171.34	-23.08	1645093.85	14588135.24	40°10'07.023"N	104°58'59.727"W	0.07	
18373.00	90.370	359.000	7261.69	11261.32	11261.32	-24.96	1645091.95	14588225.19	40°10'07.912"N	104°58'59.752"W	0.45	
18462.00	90.460	1.870	7261.05	11350.31	11350.31	-24.28	1645092.61	14588314.14	40°10'08.791"N	104°58'59.743"W	3.23	
18552.00	90.520	3.920	7260.28	11440.18	11440.18	-19.74	1645097.13	14588403.98	40°10'09.680"N	104°58'59.684"W	2.28	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361°FSL & 955°FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWB
Facility	SEC.15-T2N-R68W		

WELLPATH DATA (246 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
18642.00	90.280	2.860	7259.65	11530.02	11530.02	-14.42	1645102.43	14588493.78	40°10'10.567"N	104°58'59.616"W	1.21	
18732.00	90.220	1.660	7259.26	11619.95	11619.95	-10.87	1645105.96	14588583.67	40°10'11.456"N	104°58'59.570"W	1.33	
18821.00	90.250	1.120	7258.89	11708.92	11708.92	-8.71	1645108.11	14588672.61	40°10'12.335"N	104°58'59.542"W	0.61	
18911.00	90.280	0.730	7258.48	11798.91	11798.91	-7.26	1645109.54	14588762.56	40°10'13.225"N	104°58'59.523"W	0.43	
19001.00	90.460	1.060	7257.89	11888.90	11888.90	-5.85	1645110.93	14588852.51	40°10'14.114"N	104°58'59.505"W	0.42	
19091.00	90.370	1.130	7257.24	11978.88	11978.88	-4.13	1645112.63	14588942.46	40°10'15.003"N	104°58'59.483"W	0.13	
19181.00	90.460	2.050	7256.59	12068.84	12068.84	-1.63	1645115.11	14589032.39	40°10'15.892"N	104°58'59.451"W	1.03	
19270.00	90.520	1.700	7255.83	12157.79	12157.79	1.28	1645118.00	14589121.30	40°10'16.771"N	104°58'59.414"W	0.40	
19360.00	90.430	0.210	7255.08	12247.77	12247.77	2.78	1645119.49	14589211.24	40°10'17.660"N	104°58'59.394"W	1.66	
19450.00	90.920	359.750	7254.02	12337.76	12337.76	2.75	1645119.44	14589301.20	40°10'18.549"N	104°58'59.395"W	0.75	
19540.00	90.520	359.160	7252.89	12427.75	12427.75	1.89	1645118.57	14589391.15	40°10'19.439"N	104°58'59.406"W	0.79	
19629.00	90.520	359.190	7252.08	12516.74	12516.74	0.61	1645117.27	14589480.11	40°10'20.318"N	104°58'59.422"W	0.03	
19719.00	90.430	358.350	7251.34	12606.71	12606.71	-1.32	1645115.32	14589570.04	40°10'21.207"N	104°58'59.447"W	0.94	
19808.00	90.430	358.540	7250.67	12695.68	12695.68	-3.74	1645112.89	14589658.97	40°10'22.086"N	104°58'59.478"W	0.21	
19898.00	90.400	357.640	7250.02	12785.63	12785.63	-6.74	1645109.87	14589748.88	40°10'22.975"N	104°58'59.517"W	1.00	
19988.00	90.430	357.670	7249.37	12875.55	12875.55	-10.42	1645106.18	14589838.77	40°10'23.864"N	104°58'59.564"W	0.05	
20077.00	90.460	358.180	7248.68	12964.49	12964.49	-13.64	1645102.94	14589927.67	40°10'24.743"N	104°58'59.606"W	0.57	
20167.00	90.580	359.320	7247.86	13054.46	13054.46	-15.61	1645100.96	14590017.61	40°10'25.632"N	104°58'59.631"W	1.27	
20257.00	91.820	359.920	7245.97	13144.44	13144.44	-16.20	1645100.34	14590107.55	40°10'26.521"N	104°58'59.639"W	1.53	
20346.00	92.250	0.240	7242.81	13233.38	13233.38	-16.08	1645100.45	14590196.45	40°10'27.400"N	104°58'59.637"W	0.60	
20436.00	92.090	0.210	7239.41	13323.32	13323.31	-15.73	1645100.79	14590286.35	40°10'28.289"N	104°58'59.633"W	0.18	
20525.00	92.190	359.600	7236.08	13412.25	13412.25	-15.87	1645100.62	14590375.25	40°10'29.168"N	104°58'59.634"W	0.69	
20615.00	90.430	359.540	7234.02	13502.22	13502.22	-16.55	1645099.93	14590465.19	40°10'30.057"N	104°58'59.643"W	1.96	
20704.00	90.430	359.890	7233.36	13591.22	13591.22	-16.99	1645099.47	14590554.15	40°10'30.936"N	104°58'59.649"W	0.39	
20794.00	90.370	0.200	7232.73	13681.22	13681.22	-16.92	1645099.53	14590644.11	40°10'31.826"N	104°58'59.648"W	0.35	
20884.00	90.520	0.730	7232.03	13771.21	13771.21	-16.19	1645100.24	14590734.07	40°10'32.715"N	104°58'59.639"W	0.61	
20973.00	90.430	1.840	7231.29	13860.18	13860.18	-14.19	1645102.22	14590823.01	40°10'33.594"N	104°58'59.613"W	1.25	
21063.00	90.310	2.530	7230.71	13950.12	13950.12	-10.76	1645105.63	14590912.90	40°10'34.483"N	104°58'59.569"W	0.78	
21153.00	90.120	1.050	7230.37	14040.07	14040.07	-7.95	1645108.42	14591002.82	40°10'35.372"N	104°58'59.532"W	1.66	
21242.00	90.280	1.530	7230.06	14129.05	14129.05	-5.95	1645110.41	14591091.76	40°10'36.251"N	104°58'59.507"W	0.57	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361'FSL & 955'FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWB
Facility	SEC.15-T2N-R68W		

WELLPATH DATA (246 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
21332.00	90.280	2.480	7229.62	14218.99	14218.99	2.80	1645113.54	14591181.67	40°10'37.140"N	104°58'59.466"W	1.06	
21422.00	90.060	1.380	7229.35	14308.93	14308.94	0.23	1645116.55	14591271.58	40°10'38.029"N	104°58'59.427"W	1.25	
21511.00	90.310	0.900	7229.07	14397.92	14397.92	2.00	1645118.31	14591360.53	40°10'38.908"N	104°58'59.404"W	0.61	
21594.00†	90.079	359.729	7228.79	14480.91	14480.91	2.46	1645118.74	14591443.49	40°10'39.728"N	104°58'59.398"W	1.44	ENTERED RADIUS TOE (993'FSL & 1018'FEL, SEC.34) 40.1777023 -104.9831662
21601.00	90.060	359.630	7228.78	14487.91	14487.91	2.42	1645118.70	14591450.49	40°10'39.797"N	104°58'59.399"W	1.44	LAST BHI MWD+IFR+MSA SURVEY
22086.00	90.030	359.630	7228.40	14972.90	14972.90	-0.71	1645115.48	14591935.28	40°10'44.590"N	104°58'59.439"W	0.01	PTB (1485'FSL & 1021'FEL, SEC.34) 40.1790528 -104.9831775

HOLE & CASING SECTIONS - Ref Wellbore: HOPPER STATE 9N-34SLHZ AWB Ref Wellpath: HOPPER STATE 9N-34SLHZ 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	2337.00	2311.00	26.00	2335.54	0.00	0.00	-1.28	-67.74

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361°FSL & 955°FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWB
Facility	SEC.15-T2N-R68W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.03-T2N-R68W	0.00	0.00	-59.80	1645059.25	14576968.39	40°08'16.627"N	104°59'00.200"W	polygon
SEC.10-T2N-R68W	0.00	0.00	-59.80	1645059.25	14576968.39	40°08'16.627"N	104°59'00.200"W	polygon
SEC.15-T2N-R68W	0.00	0.00	-59.80	1645059.25	14576968.39	40°08'16.627"N	104°59'00.200"W	polygon
SEC.34-T3N-R68W	0.00	0.00	-59.80	1645059.25	14576968.39	40°08'16.627"N	104°59'00.200"W	polygon
HOPPER STATE 9N-34SLHZ BHL REV-1 (1512°FSL, 1011°FEL, SEC.34)	7230.00	14999.58	8.66	1645124.85	14591961.95	40°10'44.854"N	104°58'59.318"W	point
HOPPER STATE 9N-34SLHZ Circle	7230.00	14826.89	-301.45	1644814.89	14591789.27	40°10'43.147"N	104°59'03.314"W	circle
HOPPER STATE 9N-34SLHZ Circle Heel	7230.00	296.72	-368.80	1644750.32	14577264.93	40°08'19.559"N	104°59'04.179"W	circle
HOPPER STATE 9N-34SLHZ Landbox	7230.00	15710.37	142.18	1645258.18	14592672.48	40°10'51.878"N	104°58'57.598"W	polygon
HOPPER STATE 9N-34SLHZ HEEL REV-2 (2316°FNL, 1032°FEL, SEC.15)	7351.00	645.55	-77.77	1645041.16	14577613.67	40°08'23.006"N	104°59'00.431"W	point
HOPPER STATE 9N-34SLHZ HEEL REV-3 (2366°FNL, 1032°FEL, SEC.15)	7351.00	595.55	-77.77	1645041.17	14577563.70	40°08'22.512"N	104°59'00.431"W	point

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361°FSL & 955°FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWB
Facility	SEC.15-T2N-R68W		

WELLPATH COMPOSITION - Ref Wellbore: HOPPER STATE 9N-34SLHZ AWB Ref Wellpath: HOPPER STATE 9N-34SLHZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	2277.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	BHI APC ISCWSA REV 2 MWD+IFR1, SURFACE HOLE <219 - 2277>	HOPPER STATE 9N-34SLHZ AWB
2277.00	21601.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHI APC ISCWSA REV 2 MWD+IFR1+MSA <2384 - 21601>	HOPPER STATE 9N-34SLHZ AWB
21601.00	22086.00	Blind Drilling (std)	Projection to bit	HOPPER STATE 9N-34SLHZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#05 HOPPER STATE 9N-34SLHZ (2361'FSL & 955'FEL, SEC.15)
Area	COLORADO	Well	HOPPER STATE 9N-34SLHZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HOPPER STATE 9N-34SLHZ AWB
Facility	SEC.15-T2N-R68W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
219.00	0.610	45.630	219.00	FIRST BHI MWD+IFR SURVEY
954.00	2.978	267.484	953.54	ENTERED RADIUS HEEL (2359'FSL & 974'FEL, SEC.15) 40.1379452 -104.9832415
2277.00	1.980	270.470	2275.57	LAST BHI MWD+IFR SURVEY
2384.00	1.610	284.480	2382.52	FIRST BHI MWD+IFR+MSA SURVEY
6767.00	9.312	351.895	6763.10	KOP
7777.00	89.272	0.619	7351.20	LANDING (3032'FSL & 1043'FEL, SEC.15) 40.1397945 -104.9834883
21594.00	90.079	359.729	7228.79	ENTERED RADIUS TOE (993'FSL & 1018'FEL, SEC.34) 40.1777023 -104.9831662
21601.00	90.060	359.630	7228.78	LAST BHI MWD+IFR+MSA SURVEY
22086.00	90.030	359.630	7228.40	PTB (1485'FSL & 1021'FEL, SEC.34) 40.1790528 -104.9831775