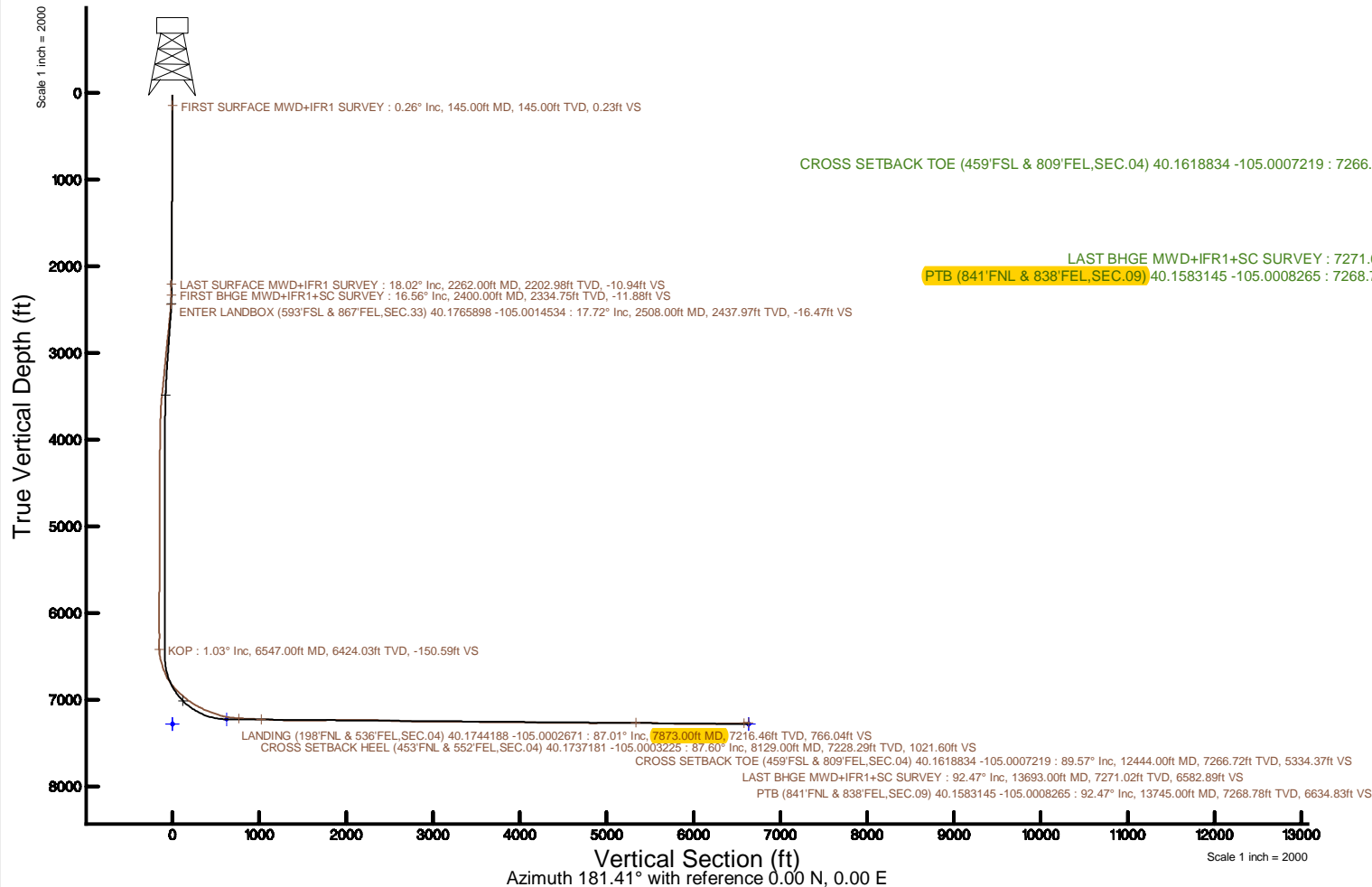


Location:	COLORADO	Shot:	SLOT#31 NEWBY STATE 16N-4HZ (589FSL & 1365FEL SEC.33)
Field:	WELD COUNTY (UTM/TTRUE NORTH)	Well:	NEWBY STATE 16N-4HZ
Facility:	SEC.33-13N-R68W	Wellbore:	NEWBY STATE 16N-4HZ PWB
<p>Plot reference wellpath is NEWBY STATE 16N-4HZ PWP Rev.0</p> <p>True vertical depths are referenced to NABORS X22 (32) (RT)</p> <p>Measured depths are referenced to NABORS X22 (32) (RT)</p> <p>NABORS X22 (32) (RT) to Mean Sea Level: 4927 feet</p> <p>Mean Sea Level to Mud line (At Slot: SLOT#31 NEWBY STATE 16N-4HZ (589FSL &amp; 1365FEL SEC.33): 0 feet</p> <p>Coordinates are in feet referenced to Slot</p>			
		<p>Grid System: NAD83 / UTM Zone 13 North, US feet</p> <p>* = Wellpath was transformed from a different geoidic datum</p> <p>North Reference: True north</p> <p>Scale: True distance</p> <p>Depths are in feet</p> <p>Created by: painsett on 2018-02-02</p> <p>Database: WA_DEN_Ansardak_Deht</p>	



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#31 NEWBY STATE 16N-4HZ (589'FSL & 1365'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 16N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 16N-4HZ AWB
Facility	SEC.33-T3N-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	2/2/2018 at 8:57 AM
Convergence at slot	0.00°	Database/Source file	WA_DEN_Anadarko_Defn/NEWBY_STATE_16N-4HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-674.52	2639.32	1639513.04	14591033.68	40°10'35.681"N	105°00'11.646"W
Facility Reference Pt			1636874.88	14591708.30	40°10'42.348"N	105°00'45.648"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	NABORS X22 (32') (RT) to Facility Vertical Datum	4927.00ft
Horizontal Reference Pt	Slot	NABORS X22 (32') (RT) to Mean Sea Level	4927.00ft
Vertical Reference Pt	NABORS X22 (32') (RT)	NABORS X22 (32') (RT) to Mud Line at Slot (SLOT#31 NEWBY STATE 16N-4HZ (589'FSL & 1365'FEL,SEC.33))	4927.00ft
MD Reference Pt	NABORS X22 (32') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	181.41°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#31 NEWBY STATE 16N-4HZ (589'FSL & 1365'FEL, SEC.33)
Area	COLORADO	Well	NEWBY STATE 16N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 16N-4HZ AWP
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (193 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	206.120	0.00	0.00	0.00	0.00	1639513.04	14591033.68	40°10'35.681"N	105°00'11.646"W	0.00	
32.00	0.000	206.120	32.00	0.00	0.00	0.00	1639513.04	14591033.68	40°10'35.681"N	105°00'11.646"W	0.00	
145.00	0.260	206.120	145.00	0.23	-0.23	-0.11	1639512.93	14591033.45	40°10'35.679"N	105°00'11.647"W	0.23	FIRST SURFACE MWD+IFR1 SURVEY
177.00	0.400	140.560	177.00	0.38	-0.38	-0.07	1639512.97	14591033.30	40°10'35.677"N	105°00'11.647"W	1.18	
209.00	0.220	218.160	209.00	0.52	-0.52	-0.04	1639513.00	14591033.16	40°10'35.676"N	105°00'11.647"W	1.29	
271.00	0.620	268.790	271.00	0.63	-0.62	-0.45	1639512.59	14591033.06	40°10'35.675"N	105°00'11.652"W	0.82	
303.00	0.750	257.270	302.99	0.69	-0.67	-0.83	1639512.21	14591033.01	40°10'35.674"N	105°00'11.657"W	0.59	
334.00	0.920	254.990	333.99	0.81	-0.78	-1.27	1639511.77	14591032.90	40°10'35.673"N	105°00'11.662"W	0.56	
366.00	0.700	259.380	365.99	0.92	-0.88	-1.71	1639511.33	14591032.80	40°10'35.672"N	105°00'11.668"W	0.71	
397.00	0.350	123.680	396.99	1.01	-0.97	-1.81	1639511.23	14591032.71	40°10'35.671"N	105°00'11.669"W	3.17	
429.00	1.230	117.700	428.98	1.21	-1.18	-1.43	1639511.61	14591032.50	40°10'35.669"N	105°00'11.664"W	2.76	
461.00	1.230	117.260	460.98	1.52	-1.50	-0.82	1639512.22	14591032.18	40°10'35.666"N	105°00'11.657"W	0.03	
492.00	1.540	104.870	491.97	1.76	-1.76	-0.12	1639512.92	14591031.92	40°10'35.664"N	105°00'11.648"W	1.38	
524.00	2.330	88.790	523.95	1.83	-1.85	0.95	1639513.99	14591031.83	40°10'35.663"N	105°00'11.634"W	2.97	
555.00	3.780	81.840	554.90	1.63	-1.69	2.59	1639515.63	14591031.99	40°10'35.664"N	105°00'11.613"W	4.82	
587.00	3.820	78.860	586.83	1.22	-1.34	4.68	1639517.72	14591032.34	40°10'35.668"N	105°00'11.586"W	0.63	
619.00	4.350	80.440	618.75	0.76	-0.93	6.92	1639519.96	14591032.75	40°10'35.672"N	105°00'11.557"W	1.69	
651.00	5.490	80.610	650.63	0.24	-0.48	9.63	1639522.66	14591033.20	40°10'35.676"N	105°00'11.522"W	3.56	
683.00	6.330	81.760	682.46	-0.34	0.02	12.88	1639525.92	14591033.70	40°10'35.681"N	105°00'11.480"W	2.65	
714.00	6.500	83.250	713.27	-0.87	0.47	16.32	1639529.35	14591034.15	40°10'35.686"N	105°00'11.436"W	0.77	
746.00	6.990	82.990	745.05	-1.42	0.92	20.05	1639533.08	14591034.60	40°10'35.690"N	105°00'11.388"W	1.53	
778.00	7.560	82.110	776.79	-2.04	1.45	24.07	1639537.10	14591035.13	40°10'35.695"N	105°00'11.336"W	1.81	
810.00	8.700	84.390	808.47	-2.68	1.98	28.56	1639541.59	14591035.65	40°10'35.701"N	105°00'11.278"W	3.70	
842.00	9.490	86.590	840.07	-3.19	2.37	33.60	1639546.63	14591036.05	40°10'35.704"N	105°00'11.213"W	2.70	
873.00	10.200	88.000	870.61	-3.57	2.62	38.90	1639551.92	14591036.30	40°10'35.707"N	105°00'11.145"W	2.42	
905.00	10.370	90.190	902.10	-3.80	2.71	44.61	1639557.63	14591036.38	40°10'35.708"N	105°00'11.071"W	1.33	
937.00	10.720	92.830	933.56	-3.79	2.55	50.46	1639563.48	14591036.23	40°10'35.706"N	105°00'10.996"W	1.86	
968.00	11.160	94.320	963.99	-3.56	2.18	56.33	1639569.35	14591035.86	40°10'35.703"N	105°00'10.920"W	1.69	
1000.00	11.030	95.470	995.39	-3.19	1.66	62.47	1639575.48	14591035.33	40°10'35.697"N	105°00'10.841"W	0.80	
1032.00	11.250	94.680	1026.79	-2.79	1.11	68.63	1639581.64	14591034.79	40°10'35.692"N	105°00'10.762"W	0.84	
1064.00	11.600	93.010	1058.16	-2.52	0.69	74.95	1639587.96	14591034.36	40°10'35.688"N	105°00'10.680"W	1.50	
1096.00	12.570	91.160	1089.45	-2.45	0.45	81.64	1639594.65	14591034.12	40°10'35.685"N	105°00'10.594"W	3.26	
1127.00	13.050	89.840	1119.68	-2.56	0.39	88.52	1639601.52	14591034.07	40°10'35.685"N	105°00'10.506"W	1.81	
1159.00	12.880	88.080	1150.86	-2.87	0.52	95.69	1639608.70	14591034.19	40°10'35.686"N	105°00'10.413"W	1.34	
1191.00	14.110	88.160	1181.98	-3.29	0.76	103.16	1639616.16	14591034.44	40°10'35.689"N	105°00'10.317"W	3.84	
1222.00	13.750	88.700	1212.06	-3.68	0.97	110.62	1639623.61	14591034.64	40°10'35.691"N	105°00'10.221"W	1.23	
1254.00	14.110	89.400	1243.12	-4.00	1.10	118.32	1639631.31	14591034.77	40°10'35.692"N	105°00'10.122"W	1.24	
1286.00	14.770	91.160	1274.11	-4.15	1.05	126.30	1639639.29	14591034.73	40°10'35.691"N	105°00'10.019"W	2.48	
1318.00	15.730	91.250	1304.99	-4.18	0.88	134.71	1639647.70	14591034.55	40°10'35.690"N	105°00'09.911"W	3.00	
1350.00	16.260	90.110	1335.75	-4.29	0.77	143.53	1639656.51	14591034.45	40°10'35.689"N	105°00'09.797"W	1.93	
1381.00	16.960	89.050	1365.45	-4.58	0.84	152.39	1639665.37	14591034.51	40°10'35.689"N	105°00'09.683"W	2.46	
1413.00	17.050	89.230	1396.05	-4.95	0.98	161.75	1639674.72	14591034.65	40°10'35.691"N	105°00'09.562"W	0.33	
1445.00	17.710	88.440	1426.59	-5.38	1.18	171.30	1639684.28	14591034.85	40°10'35.693"N	105°00'09.439"W	2.19	
1476.00	18.760	88.790	1456.04	-5.85	1.41	181.00	1639693.97	14591035.08	40°10'35.695"N	105°00'09.314"W	3.41	
1513.00	19.160	89.140	1491.03	-6.36	1.63	193.02	1639705.98	14591035.30	40°10'35.697"N	105°00'09.159"W	1.12	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#31 NEWBY STATE 16N-4HZ (589'FSL & 1365'FEL, SEC.33)
Area	COLORADO	Well	NEWBY STATE 16N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 16N-4HZ AWP
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (193 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
1539.00	19.250	87.910	1515.58	-6.79	1.85	201.57	1639714.53	14591035.52	40°10'35.699"N	105°00'09.049"W	1.59	
1571.00	19.380	87.210	1545.78	-7.50	2.30	212.15	1639725.10	14591035.97	40°10'35.704"N	105°00'08.913"W	0.83	
1603.00	19.200	87.560	1575.98	-8.24	2.78	222.71	1639735.66	14591036.45	40°10'35.708"N	105°00'08.777"W	0.67	
1635.00	18.590	88.520	1606.26	-8.85	3.14	233.06	1639746.01	14591036.81	40°10'35.712"N	105°00'08.643"W	2.14	
1666.00	17.890	90.110	1635.70	-9.21	3.25	242.76	1639755.71	14591036.92	40°10'35.713"N	105°00'08.519"W	2.77	
1698.00	17.140	91.340	1666.22	-9.32	3.13	252.39	1639765.33	14591036.80	40°10'35.712"N	105°00'08.394"W	2.61	
1730.00	17.310	91.950	1696.78	-9.28	2.86	261.86	1639774.80	14591036.53	40°10'35.709"N	105°00'08.272"W	0.78	
1762.00	17.230	89.750	1727.34	-9.37	2.72	271.36	1639784.29	14591036.39	40°10'35.708"N	105°00'08.150"W	2.06	
1793.00	17.490	90.370	1756.93	-9.59	2.71	280.61	1639793.54	14591036.38	40°10'35.708"N	105°00'08.031"W	1.03	
1825.00	17.180	91.250	1787.47	-9.69	2.58	290.14	1639803.07	14591036.24	40°10'35.706"N	105°00'07.908"W	1.27	
1857.00	16.880	92.660	1818.07	-9.60	2.26	299.51	1639812.43	14591035.93	40°10'35.703"N	105°00'07.787"W	1.59	
1889.00	16.920	92.220	1848.69	-9.43	1.86	308.80	1639821.72	14591035.53	40°10'35.699"N	105°00'07.668"W	0.42	
1952.00	17.580	91.070	1908.86	-9.36	1.33	327.48	1639840.39	14591035.00	40°10'35.694"N	105°00'07.427"W	1.18	
1984.00	17.620	90.980	1939.36	-9.42	1.16	337.15	1639850.06	14591034.82	40°10'35.692"N	105°00'07.303"W	0.15	
2015.00	18.410	91.780	1968.84	-9.43	0.92	346.74	1639859.64	14591034.59	40°10'35.690"N	105°00'07.179"W	2.67	
2047.00	18.680	91.250	1999.18	-9.41	0.66	356.91	1639869.81	14591034.32	40°10'35.687"N	105°00'07.048"W	0.99	
2079.00	18.060	90.370	2029.55	-9.51	0.51	366.99	1639879.89	14591034.18	40°10'35.686"N	105°00'06.918"W	2.12	
2111.00	18.330	90.110	2059.95	-9.71	0.47	376.99	1639889.87	14591034.14	40°10'35.686"N	105°00'06.789"W	0.88	
2142.00	18.760	89.320	2089.34	-10.00	0.52	386.84	1639899.73	14591034.18	40°10'35.686"N	105°00'06.662"W	1.61	
2174.00	18.810	89.400	2119.63	-10.37	0.63	397.15	1639910.03	14591034.30	40°10'35.687"N	105°00'06.530"W	0.18	
2205.00	18.720	90.020	2148.98	-10.67	0.69	407.12	1639920.00	14591034.35	40°10'35.688"N	105°00'06.401"W	0.71	
2237.00	18.940	90.110	2179.27	-10.91	0.67	417.45	1639930.32	14591034.34	40°10'35.688"N	105°00'06.268"W	0.69	
2262.00	18.020	92.300	2202.98	-10.94	0.51	425.37	1639938.24	14591034.17	40°10'35.686"N	105°00'06.166"W	4.61	LAST SURFACE MWD+IFR1 SURVEY
2400.00	16.560	87.680	2334.75	-11.88	0.45	466.35	1639979.20	14591034.11	40°10'35.685"N	105°00'05.638"W	1.45	FIRST BHGE MWD+IFR1+SC SURVEY
2494.00	17.550	79.850	2424.63	-15.59	3.49	493.69	1640006.53	14591037.15	40°10'35.715"N	105°00'05.286"W	2.66	
2508.00†	17.722	79.002	2437.97	-16.47	4.27	497.86	1640010.70	14591037.93	40°10'35.723"N	105°00'05.232"W	2.21	ENTER LANDBOX (593'FSL & 867'FEL, SEC.33) 40.1765898 -105.0014534
2588.00	18.770	74.460	2513.95	-22.84	10.04	522.22	1640035.05	14591043.70	40°10'35.780"N	105°00'04.918"W	2.21	
2682.00	19.130	76.150	2602.85	-31.30	17.78	551.74	1640064.56	14591051.43	40°10'35.857"N	105°00'04.538"W	0.70	
2776.00	18.030	72.420	2691.96	-40.09	25.86	580.57	1640093.37	14591059.51	40°10'35.936"N	105°00'04.167"W	1.72	
2870.00	18.270	73.200	2781.28	-49.42	34.51	608.54	1640121.34	14591068.16	40°10'36.022"N	105°00'03.806"W	0.36	
2964.00	19.420	74.120	2870.24	-58.67	43.05	637.68	1640150.46	14591076.69	40°10'36.106"N	105°00'03.431"W	1.26	
3058.00	17.970	72.090	2959.28	-68.11	51.78	666.51	1640179.28	14591085.42	40°10'36.193"N	105°00'03.059"W	1.69	
3151.00	18.350	76.160	3047.65	-76.71	59.70	694.37	1640207.14	14591093.33	40°10'36.271"N	105°00'02.700"W	1.42	
3246.00	16.950	73.160	3138.18	-84.97	67.29	722.15	1640234.90	14591100.91	40°10'36.346"N	105°00'02.343"W	1.76	
3339.00	15.470	71.220	3227.48	-93.50	75.21	746.87	1640259.61	14591108.83	40°10'36.424"N	105°00'02.024"W	1.69	
3433.00	14.070	67.580	3318.37	-102.44	83.60	769.30	1640282.03	14591117.22	40°10'36.507"N	105°00'01.735"W	1.79	
3527.00	12.740	63.150	3409.81	-111.96	92.64	789.11	1640301.84	14591126.26	40°10'36.596"N	105°00'01.480"W	1.79	
3645.00	11.240	60.480	3525.23	-124.03	104.19	810.73	1640323.45	14591137.79	40°10'36.710"N	105°00'01.201"W	1.35	
3740.00	8.490	68.700	3618.83	-131.50	111.30	825.32	1640338.04	14591144.90	40°10'36.781"N	105°00'01.013"W	3.25	
3833.00	7.110	76.140	3710.97	-135.67	115.17	837.31	1640350.02	14591148.77	40°10'36.819"N	105°00'00.859"W	1.84	
3927.00	4.450	59.100	3804.49	-139.15	118.44	846.09	1640358.79	14591152.04	40°10'36.851"N	105°00'00.746"W	3.34	
4021.00	2.720	71.200	3898.30	-141.87	121.03	851.33	1640364.03	14591154.63	40°10'36.877"N	105°00'00.678"W	2.00	
4115.00	0.520	45.000	3992.26	-142.95	122.05	853.74	1640366.44	14591155.65	40°10'36.887"N	105°00'00.647"W	2.41	
4209.00	0.480	27.230	4086.25	-143.61	122.70	854.22	1640366.92	14591156.30	40°10'36.893"N	105°00'00.641"W	0.17	
4303.00	0.500	0.200	4180.25	-144.37	123.46	854.41	1640367.11	14591157.06	40°10'36.901"N	105°00'00.639"W	0.24	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#31 NEWBY STATE 16N-4HZ (589'FSL & 1365'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 16N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 16N-4HZ AWP
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (193 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
4396.00	0.780	342.180	4273.24	-145.38	124.47	854.21	1640366.91	14591158.07	40°10'36.911"N	105°00'00.641"W	0.37	
4490.00	0.780	346.080	4367.24	-146.60	125.70	853.86	1640366.56	14591159.30	40°10'36.923"N	105°00'00.646"W	0.06	
4583.00	1.080	288.150	4460.22	-147.46	126.59	852.88	1640365.58	14591160.18	40°10'36.932"N	105°00'00.658"W	1.01	
4677.00	0.580	198.820	4554.22	-147.26	126.41	851.88	1640364.59	14591160.01	40°10'36.930"N	105°00'00.671"W	1.30	
4772.00	0.590	184.460	4649.21	-146.32	125.47	851.69	1640364.39	14591159.07	40°10'36.921"N	105°00'00.674"W	0.15	
4866.00	0.360	211.450	4743.21	-145.58	124.74	851.50	1640364.20	14591158.33	40°10'36.913"N	105°00'00.676"W	0.34	
4960.00	0.030	19.530	4837.21	-145.34	124.51	851.35	1640364.05	14591158.11	40°10'36.911"N	105°00'00.678"W	0.41	
5055.00	0.440	353.050	4932.21	-145.73	124.89	851.32	1640364.02	14591158.49	40°10'36.915"N	105°00'00.679"W	0.44	
5149.00	0.730	339.760	5026.20	-146.64	125.81	851.07	1640363.77	14591159.41	40°10'36.924"N	105°00'00.682"W	0.34	
5242.00	0.760	333.750	5119.20	-147.74	126.92	850.59	1640363.29	14591160.52	40°10'36.935"N	105°00'00.688"W	0.09	
5335.00	1.170	240.840	5212.19	-147.80	127.01	849.49	1640362.19	14591160.61	40°10'36.936"N	105°00'00.702"W	1.53	
5430.00	0.870	242.410	5307.17	-146.96	126.21	848.00	1640360.70	14591159.80	40°10'36.928"N	105°00'00.721"W	0.32	
5524.00	1.090	269.520	5401.16	-146.58	125.87	846.47	1640359.18	14591159.47	40°10'36.925"N	105°00'00.741"W	0.54	
5618.00	0.880	274.210	5495.14	-146.59	125.91	844.86	1640357.56	14591159.51	40°10'36.925"N	105°00'00.762"W	0.24	
5712.00	1.040	308.470	5589.13	-147.14	126.50	843.47	1640356.18	14591160.09	40°10'36.931"N	105°00'00.780"W	0.62	
5806.00	1.200	341.270	5683.11	-148.58	127.96	842.49	1640355.19	14591161.56	40°10'36.945"N	105°00'00.792"W	0.69	
5900.00	1.690	341.460	5777.08	-150.81	130.21	841.73	1640354.44	14591163.80	40°10'36.968"N	105°00'00.802"W	0.52	
5994.00	0.380	118.090	5871.07	-151.97	131.37	841.57	1640354.27	14591164.97	40°10'36.979"N	105°00'00.804"W	2.11	
6088.00	0.280	356.380	5965.07	-152.06	131.46	841.83	1640354.53	14591165.05	40°10'36.980"N	105°00'00.801"W	0.62	
6276.00	1.280	128.970	6153.06	-151.23	130.59	843.43	1640356.13	14591164.19	40°10'36.971"N	105°00'00.780"W	0.79	
6370.00	0.620	106.220	6247.04	-150.46	129.79	844.73	1640357.44	14591163.39	40°10'36.963"N	105°00'00.763"W	0.80	
6463.00	0.720	45.100	6340.04	-150.76	130.06	845.63	1640358.34	14591163.66	40°10'36.966"N	105°00'00.752"W	0.74	
6547.00†	1.030	137.576	6424.03	-150.59	129.88	846.51	1640359.22	14591163.47	40°10'36.964"N	105°00'00.740"W	1.53	KOP
6557.00	1.160	141.810	6434.03	-150.45	129.73	846.64	1640359.34	14591163.33	40°10'36.963"N	105°00'00.739"W	1.53	
6650.00	13.360	179.030	6526.13	-138.95	118.20	847.40	1640360.11	14591151.80	40°10'36.849"N	105°00'00.729"W	13.39	
6744.00	18.140	183.450	6616.57	-113.46	92.72	846.71	1640359.41	14591126.33	40°10'36.597"N	105°00'00.738"W	5.24	
6839.00	22.670	178.740	6705.59	-80.37	59.64	846.22	1640358.92	14591093.26	40°10'36.270"N	105°00'00.744"W	5.07	
6933.00	33.460	180.410	6788.42	-36.23	15.48	846.43	1640359.13	14591049.13	40°10'35.834"N	105°00'00.741"W	11.51	
7027.00	42.350	182.290	6862.52	21.45	-42.18	844.98	1640357.68	14590991.48	40°10'35.264"N	105°00'00.760"W	9.54	
7121.00	46.060	182.900	6929.89	86.97	-107.64	842.00	1640354.70	14590926.05	40°10'34.617"N	105°00'00.799"W	3.97	
7215.00	52.310	180.530	6991.30	158.06	-178.71	839.94	1640352.64	14590855.01	40°10'33.915"N	105°00'00.825"W	6.92	
7309.00	58.530	182.540	7044.63	235.41	-256.03	837.82	1640350.51	14590777.72	40°10'33.151"N	105°00'00.853"W	6.85	
7403.00	62.560	179.580	7090.85	317.23	-337.84	836.35	1640349.04	14590695.95	40°10'32.342"N	105°00'00.872"W	5.09	
7496.00	67.160	178.630	7130.35	401.33	-421.99	837.68	1640350.36	14590611.83	40°10'31.511"N	105°00'00.855"W	5.03	
7590.00	70.680	179.370	7164.16	488.94	-509.67	839.20	1640351.88	14590524.18	40°10'30.644"N	105°00'00.835"W	3.82	
7684.00	76.920	181.850	7190.37	579.15	-599.88	838.21	1640350.89	14590434.01	40°10'29.753"N	105°00'00.848"W	7.10	
7778.00	82.120	182.620	7207.47	671.54	-692.21	834.60	1640347.28	14590341.72	40°10'28.840"N	105°00'00.894"W	5.59	
7873.00	87.010	183.710	7216.46	766.04	-786.61	829.38	1640342.05	14590247.35	40°10'27.908"N	105°00'00.962"W	5.27	LANDING (198'FNL & 536'FEL,SEC.04) 40.1744188 -105.0002671
7967.00	87.220	183.410	7221.19	859.85	-880.31	823.55	1640336.22	14590153.69	40°10'26.982"N	105°00'01.037"W	0.39	
8061.00	87.600	183.430	7225.44	953.70	-974.05	817.95	1640330.62	14590059.99	40°10'26.055"N	105°00'01.109"W	0.40	
8129.00†	87.600	183.387	7228.29	1021.60	-1041.87	813.91	1640326.58	14589992.20	40°10'25.385"N	105°00'01.161"W	0.06	CROSS SETBACK HEEL (453'FNL & 552'FEL,SEC.04) 40.1737181 -105.0003225
8155.00	87.600	183.370	7229.38	1047.56	-1067.80	812.38	1640325.05	14589966.28	40°10'25.129"N	105°00'01.181"W	0.06	
8249.00	87.780	183.580	7233.17	1141.42	-1161.55	806.68	1640319.36	14589872.57	40°10'24.202"N	105°00'01.254"W	0.29	
8343.00	87.660	183.210	7236.91	1235.29	-1255.31	801.12	1640313.79	14589778.84	40°10'23.276"N	105°00'01.326"W	0.41	
8436.00	87.410	180.770	7240.91	1328.19	-1348.16	797.89	1640310.56	14589686.03	40°10'22.358"N	105°00'01.367"W	2.63	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#31 NEWBY STATE 16N-4HZ (589'FSL & 1365'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 16N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 16N-4HZ AWP
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (193 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
8529.00	89.320	180.140	7243.56	1421.14	-1441.12	797.16	1640309.82	14589593.11	40°10'21.440°N	105°00'01.377°W	2.16	
8624.00	89.480	179.220	7244.55	1516.09	-1536.11	797.69	1640310.35	14589498.16	40°10'20.501°N	105°00'01.370°W	0.98	
8718.00	91.480	180.030	7243.77	1610.03	-1630.10	798.30	1640310.96	14589404.21	40°10'19.572°N	105°00'01.362°W	2.30	
8812.00	91.850	179.070	7241.04	1703.94	-1724.05	799.04	1640311.70	14589310.29	40°10'18.644°N	105°00'01.353°W	1.09	
8906.00	91.880	182.970	7237.97	1797.87	-1817.97	797.37	1640310.02	14589216.41	40°10'17.716°N	105°00'01.374°W	4.15	
9000.00	90.000	183.500	7236.43	1891.81	-1911.80	792.06	1640304.72	14589122.62	40°10'16.788°N	105°00'01.443°W	2.08	
9095.00	91.080	183.260	7235.54	1986.75	-2006.63	786.46	1640299.11	14589027.83	40°10'15.851°N	105°00'01.515°W	1.16	
9188.00	89.380	183.340	7235.16	2079.69	-2099.47	781.11	1640293.76	14588935.02	40°10'14.934°N	105°00'01.584°W	1.83	
9282.00	89.450	183.010	7236.12	2173.64	-2193.32	775.90	1640288.55	14588841.21	40°10'14.006°N	105°00'01.651°W	0.36	
9376.00	90.250	183.570	7236.37	2267.59	-2287.17	770.51	1640283.16	14588747.40	40°10'13.079°N	105°00'01.721°W	1.04	
9470.00	87.290	181.690	7238.39	2361.53	-2381.03	766.20	1640278.84	14588653.58	40°10'12.151°N	105°00'01.776°W	3.73	
9564.00	87.690	181.400	7242.50	2455.44	-2474.91	763.66	1640276.31	14588559.74	40°10'11.224°N	105°00'01.809°W	0.53	
9658.00	87.840	181.540	7246.17	2549.37	-2568.81	761.26	1640273.90	14588465.88	40°10'10.296°N	105°00'01.840°W	0.22	
9752.00	88.370	181.790	7249.28	2643.32	-2662.71	758.53	1640271.16	14588372.01	40°10'09.368°N	105°00'01.875°W	0.62	
9846.00	88.710	181.920	7251.67	2737.28	-2756.63	755.48	1640268.12	14588278.13	40°10'08.440°N	105°00'01.914°W	0.39	
9940.00	88.680	181.940	7253.81	2831.25	-2850.56	752.32	1640264.95	14588184.24	40°10'07.512°N	105°00'01.955°W	0.04	
10034.00	89.940	182.780	7254.95	2925.23	-2944.47	748.45	1640261.08	14588090.37	40°10'06.584°N	105°00'02.005°W	1.61	
10128.00	88.340	181.400	7256.36	3019.21	-3038.39	745.02	1640257.65	14587996.48	40°10'05.655°N	105°00'02.049°W	2.25	
10221.00	90.430	179.020	7257.36	3112.17	-3131.37	744.68	1640257.31	14587903.54	40°10'04.737°N	105°00'02.054°W	3.41	
10315.00	89.820	179.080	7257.15	3206.09	-3225.36	746.24	1640258.86	14587809.59	40°10'03.808°N	105°00'02.034°W	0.65	
10409.00	89.820	179.210	7257.45	3300.02	-3319.35	747.64	1640260.26	14587715.64	40°10'02.879°N	105°00'02.016°W	0.14	
10503.00	89.630	179.040	7257.90	3393.94	-3413.33	749.08	1640261.69	14587621.69	40°10'01.950°N	105°00'01.997°W	0.27	
10596.00	89.880	178.970	7258.29	3486.86	-3506.32	750.69	1640263.30	14587528.74	40°10'01.031°N	105°00'01.976°W	0.28	
10690.00	89.510	179.390	7258.80	3580.79	-3600.31	752.04	1640264.64	14587434.79	40°10'00.103°N	105°00'01.959°W	0.60	
10785.00	89.600	180.580	7259.53	3675.75	-3695.30	752.06	1640264.66	14587339.83	40°09'59.164°N	105°00'01.959°W	1.26	
10879.00	89.320	180.670	7260.42	3769.74	-3789.29	751.04	1640263.64	14587245.88	40°09'58.235°N	105°00'01.972°W	0.31	
10973.00	89.200	181.510	7261.63	3863.73	-3883.27	749.25	1640261.85	14587151.95	40°09'57.306°N	105°00'01.995°W	0.90	
11067.00	89.260	182.020	7262.90	3957.72	-3977.21	746.35	1640258.95	14587058.04	40°09'56.378°N	105°00'02.032°W	0.55	
11161.00	89.230	182.740	7264.13	4051.70	-4071.12	742.45	1640255.04	14586964.16	40°09'55.450°N	105°00'02.083°W	0.77	
11255.00	89.780	183.690	7264.95	4145.64	-4164.97	737.18	1640249.77	14586870.35	40°09'54.523°N	105°00'02.151°W	1.17	
11349.00	89.600	182.590	7265.46	4239.60	-4258.83	732.03	1640244.62	14586776.54	40°09'53.595°N	105°00'02.217°W	1.19	
11443.00	89.880	182.500	7265.88	4333.58	-4352.73	727.86	1640240.44	14586682.67	40°09'52.667°N	105°00'02.271°W	0.31	
11537.00	89.660	182.270	7266.26	4427.56	-4446.65	723.94	1640236.53	14586588.79	40°09'51.739°N	105°00'02.321°W	0.34	
11631.00	89.450	181.840	7266.99	4521.56	-4540.59	720.57	1640233.16	14586494.89	40°09'50.811°N	105°00'02.365°W	0.51	
11725.00	88.890	181.540	7268.35	4615.54	-4634.54	717.80	1640230.38	14586400.98	40°09'49.882°N	105°00'02.400°W	0.68	
11820.00	88.520	181.030	7270.50	4710.52	-4729.49	715.67	1640228.25	14586306.07	40°09'48.944°N	105°00'02.428°W	0.66	
11914.00	89.720	179.330	7271.94	4804.48	-4823.47	715.38	1640227.95	14586212.12	40°09'48.015°N	105°00'02.432°W	2.21	
12008.00	90.550	180.550	7271.72	4898.45	-4917.47	715.48	1640228.05	14586118.16	40°09'47.086°N	105°00'02.430°W	1.57	
12101.00	91.790	180.970	7269.82	4991.42	-5010.44	714.24	1640226.81	14586025.23	40°09'46.168°N	105°00'02.446°W	1.41	
12195.00	90.620	182.600	7267.84	5085.39	-5104.37	711.31	1640223.88	14585931.34	40°09'45.239°N	105°00'02.484°W	2.13	
12290.00	90.310	182.070	7267.07	5180.38	-5199.29	707.44	1640220.01	14585836.46	40°09'44.301°N	105°00'02.534°W	0.65	
12383.00	90.250	181.820	7266.62	5273.37	-5292.23	704.29	1640216.85	14585743.55	40°09'43.383°N	105°00'02.575°W	0.28	
12444.00†	89.569	181.677	7266.72	5334.37	-5353.20	702.43	1640214.99	14585682.60	40°09'42.780°N	105°00'02.599°W	1.14	CROSS SETBACK TOE (459'FSL & 809'FEL,SEC.04) 40.1618834 -105.0007219
12477.00	89.200	181.600	7267.07	5367.37	-5386.19	701.48	1640214.04	14585649.63	40°09'42.454°N	105°00'02.611°W	1.14	
12570.00	88.800	181.500	7268.69	5460.35	-5479.14	698.97	1640211.53	14585556.72	40°09'41.536°N	105°00'02.643°W	0.44	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#31 NEWBY STATE 16N-4HZ (589'FSL & 1365'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 16N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 16N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (193 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
12664.00	88.490	180.990	7270.92	5554.33	-5573.09	696.93	1640209.48	14585462.81	40°09'40.607"N	105°00'02.670"W	0.63	
12758.00	88.180	180.760	7273.65	5648.28	-5667.04	695.49	1640208.04	14585368.89	40°09'39.679"N	105°00'02.688"W	0.41	
12853.00	87.470	180.330	7277.25	5743.20	-5761.96	694.59	1640207.14	14585274.01	40°09'38.741"N	105°00'02.700"W	0.87	
12946.00	88.030	180.700	7280.90	5836.12	-5854.89	693.75	1640206.30	14585181.12	40°09'37.823"N	105°00'02.711"W	0.72	
13041.00	89.080	181.190	7283.30	5931.08	-5949.84	692.19	1640204.73	14585086.20	40°09'36.884"N	105°00'02.731"W	1.22	
13135.00	89.910	181.280	7284.13	6025.08	-6043.82	690.16	1640202.70	14584992.27	40°09'35.956"N	105°00'02.757"W	0.89	
13229.00	91.540	181.810	7282.94	6119.07	-6137.77	687.63	1640200.17	14584898.35	40°09'35.027"N	105°00'02.790"W	1.82	
13324.00	91.690	181.510	7280.26	6214.03	-6232.69	684.88	1640197.41	14584803.47	40°09'34.089"N	105°00'02.825"W	0.35	
13418.00	92.030	181.390	7277.21	6307.98	-6326.62	682.50	1640195.03	14584709.58	40°09'33.161"N	105°00'02.856"W	0.38	
13512.00	90.220	181.100	7275.36	6401.96	-6420.57	680.46	1640192.99	14584615.66	40°09'32.233"N	105°00'02.882"W	1.95	
13606.00	91.450	181.670	7274.00	6495.94	-6514.53	678.18	1640190.71	14584521.74	40°09'31.304"N	105°00'02.911"W	1.44	
13693.00	92.470	182.230	7271.02	6582.89	-6601.43	675.23	1640187.75	14584434.88	40°09'30.445"N	105°00'02.949"W	1.34	LAST BHGE MWD+IFR1+SC SURVEY
13745.00	92.470	182.230	7268.78	6634.83	-6653.34	673.20	1640185.73	14584382.99	40°09'29.932"N	105°00'02.976"W	0.00	PTB (841'FNL & 838'FEL,SEC.09) 40.1583145 -105.0008265

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
NEWBY STATE 16N-4HZ HEEL REV-1(62'FNL & 549'FEL,SEC.04)	7227.00	-644.09	815.99	1640328.68	14590389.82	40°10'29.316"N	105°00'01.134"W	point
NEWBY STATE 16N-4HZ BHL REV-1(842'FNL & 600'FEL,SEC.09)	7282.00	-6654.27	703.54	1640216.06	14584382.06	40°09'29.923"N	105°00'02.585"W	point
NEWBY STATE 16N-4HZ BHL REV-2(842'FNL & 635'FEL,SEC.09)	7282.00	-6654.27	668.54	1640181.07	14584382.06	40°09'29.923"N	105°00'03.036"W	point
NEWBY STATE 16N-4HZ LANDBOX	7282.00	0.00	0.00	1639513.04	14591033.68	40°10'35.681"N	105°00'11.646"W	polygon
NEWBY STATE 16N-4HZ SETBACK 1	7282.00	0.00	0.00	1639513.04	14591033.68	40°10'35.681"N	105°00'11.646"W	polygon
NEWBY STATE 16N-4HZ SETBACK 2	7282.00	0.00	0.00	1639513.04	14591033.68	40°10'35.681"N	105°00'11.646"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: NEWBY STATE 16N-4HZ AWB				Ref Wellpath: NEWBY STATE 16N-4HZ AWP		
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment		Wellbore
32.00	2262.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)		Custom APC ISCWSA Rev-2 MWD+IFR1 <145 - 2262>		NEWBY STATE 16N-4HZ AWB
2262.00	13693.00	Custom APC ISCWSA REV 2 MWD+IFR1+SC (approximation)		BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+SC <2400 - 13693>		NEWBY STATE 16N-4HZ AWB
13693.00	13745.00	Blind Drilling (std)		Projection to bit		NEWBY STATE 16N-4HZ AWB



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#31 NEWBY STATE 16N-4HZ (589'FSL & 1365'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 16N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 16N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
145.00	0.260	206.120	145.00	FIRST SURFACE MWD+IFR1 SURVEY
2262.00	18.020	92.300	2202.98	LAST SURFACE MWD+IFR1 SURVEY
2400.00	16.560	87.680	2334.75	FIRST BHGE MWD+IFR1+SC SURVEY
2508.00	17.722	79.002	2437.97	ENTER LANDBOX (593'FSL & 867'FEL,SEC.33) 40.1765898 -105.0014534
6547.00	1.030	137.576	6424.03	KOP
7873.00	87.010	183.710	7216.46	LANDING (198'FNL & 536'FEL,SEC.04) 40.1744188 -105.0002671
8129.00	87.600	183.387	7228.29	CROSS SETBACK HEEL (453'FNL & 552'FEL,SEC.04) 40.1737181 -105.0003225
12444.00	89.569	181.677	7266.72	CROSS SETBACK TOE (459'FSL & 809'FEL,SEC.04) 40.1618834 -105.0007219
13693.00	92.470	182.230	7271.02	LAST BHGE MWD+IFR1+SC SURVEY
13745.00	92.470	182.230	7268.78	PTB (841'FNL & 838'FEL,SEC.09) 40.1583145 -105.0008265