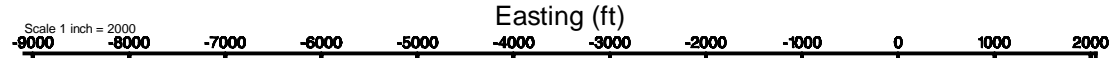


# KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#28 NEWBY STATE 15N-4HZ (589'FSL & 1440'FEL,SEC.33)  
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: NEWBY STATE 15N-4HZ  
 Facility: SEC.33-T3N-R68W Wellbore: NEWBY STATE 15N-4HZ PWB

Plot reference wellpath is NEWBY STATE 15N-4HZ PWB RevA.0	Grid System: NAD83 / UTM Zone 13 North, US feet
True vertical depths are referenced to NABORS X22 (32) (RT)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to NABORS X22 (32) (RT)	North Reference: True north
NABORS X22 (32) (RT) to Mean Sea Level: 4927 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#28 NEWBY STATE 15N-4HZ (589'FSL & 1440'FEL,SEC.33)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2018-02-06
	Database: WA_DEN_Anadarko_Deft

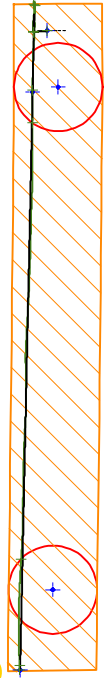
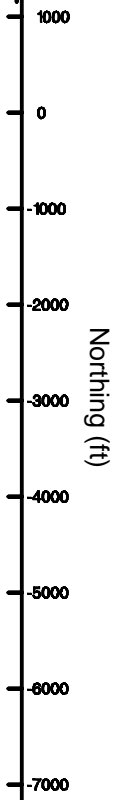


## SLOT#28 NEWBY STATE 15N-4HZ (589'FSL & 1440'FEL,SEC.33)

ENTER LANDBOX (865'FSL & 1579'FEL,SEC.33) 40.1773337 -105.0040032 : 4067.65ft TVD, 276.00ft N, 139.76ft W  
 KOP : 6333.80ft TVD, 258.88ft N, 127.42ft W  
 FIRST SURFACE MWD+IFR1 SURVEY : 144.00ft TVD, 0.63ft S, 0.13ft E  
 FIRST BHGE MWD+IFR1+SC SURVEY : 2295.54ft TVD, 14.11ft S, 144.12ft W  
 LAST SURFACE MWD+IFR1 SURVEY : 2195.55ft TVD, 14.50ft S, 142.58ft W

**LANDING (33'FNL & 1594'FEL,SEC.04)** 40.1748693 -105.0040531 : 7223.02ft TVD, 624.97ft S, 153.71ft W

EXIT RADIUS HEEL (373'FNL & 1594'FEL,SEC.04) 40.1739362 -105.0040517 : 7224.06ft TVD, 964.80ft S, 153.31ft W



ENTER RADIUS TOE (326'FSL & 1652'FEL,SEC.04) 40.1614556 -105.0044747 : 7307.39ft TVD, 5508.35ft S, 271.57ft W

LAST BHGE MWD+IFR1+SC SURVEY : 7300.29ft TVD, 6615.47ft S, 287.73ft W  
**PTB (828'FNL & 1665'FEL,SEC.09)** 40.1582878 -105.0045254 : 7298.57ft TVD, 6662.40ft S, 285.77ft W



Vertical Section (ft)  
 Azimuth 181.23° with reference 0.00 N, 0.00 E

Scale 1 inch = 2000

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#28 NEWBY STATE 15N-4HZ (589'FSL & 1440'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 15N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 15N-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	2/6/2018 at 10:41 AM
Convergence at slot	0.00°	Database/Source file	WA_DEN_Anadarko_Defn/NEWBY_STATE_15N-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	-675.24	2564.41	1639438.16	14591032.97	40°10'35.674"N	105°00'12.611"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#28 NEWBY STATE 15N-4HZ (589'FSL & 1440'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	181.23°



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#28 NEWBY STATE 15N-4HZ (589'FSL & 1440'FEL, SEC.33)
Area	COLORADO	Well	NEWBY STATE 15N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 15N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (196 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	168.150	0.00	0.00	0.00	0.00	1639438.16	14591032.97	40°10'35.674"N	105°00'12.611"W	0.00	
32.00	0.000	168.150	32.00	0.00	0.00	0.00	1639438.16	14591032.97	40°10'35.674"N	105°00'12.611"W	0.00	
144.00	0.660	168.150	144.00	0.63	-0.63	0.13	1639438.30	14591032.34	40°10'35.668"N	105°00'12.609"W	0.59	FIRST SURFACE MWD+IFR1 SURVEY
177.00	0.480	192.760	177.00	0.95	-0.95	0.14	1639438.31	14591032.02	40°10'35.665"N	105°00'12.609"W	0.91	
209.00	0.790	170.170	208.99	1.30	-1.30	0.15	1639438.31	14591031.67	40°10'35.661"N	105°00'12.609"W	1.23	
240.00	0.970	204.720	239.99	1.75	-1.75	0.08	1639438.24	14591031.23	40°10'35.657"N	105°00'12.610"W	1.77	
271.00	1.010	227.480	270.99	2.18	-2.17	-0.24	1639437.93	14591030.80	40°10'35.653"N	105°00'12.614"W	1.27	
303.00	1.490	244.440	302.98	2.56	-2.54	-0.82	1639437.35	14591030.43	40°10'35.649"N	105°00'12.622"W	1.88	
334.00	1.710	236.800	333.97	3.00	-2.97	-1.57	1639436.60	14591030.01	40°10'35.645"N	105°00'12.631"W	0.99	
366.00	2.150	247.340	365.95	3.52	-3.46	-2.52	1639435.64	14591029.51	40°10'35.640"N	105°00'12.643"W	1.76	
397.00	2.110	258.070	396.93	3.88	-3.80	-3.62	1639434.55	14591029.17	40°10'35.636"N	105°00'12.658"W	1.29	
429.00	2.070	262.550	428.91	4.10	-4.00	-4.77	1639433.40	14591028.98	40°10'35.634"N	105°00'12.672"W	0.53	
461.00	2.290	262.900	460.88	4.28	-4.15	-5.97	1639432.19	14591028.82	40°10'35.633"N	105°00'12.688"W	0.69	
492.00	2.370	258.070	491.86	4.52	-4.36	-7.22	1639430.95	14591028.61	40°10'35.631"N	105°00'12.704"W	0.68	
524.00	2.940	264.740	523.82	4.76	-4.58	-8.68	1639429.49	14591028.40	40°10'35.629"N	105°00'12.723"W	2.02	
555.00	3.520	270.550	554.77	4.86	-4.64	-10.42	1639427.74	14591028.34	40°10'35.628"N	105°00'12.745"W	2.15	
587.00	3.780	266.410	586.71	4.96	-4.70	-12.46	1639425.71	14591028.28	40°10'35.628"N	105°00'12.772"W	1.16	
619.00	4.610	271.600	618.62	5.04	-4.73	-14.80	1639423.37	14591028.25	40°10'35.627"N	105°00'12.802"W	2.85	
651.00	5.540	273.180	650.50	4.98	-4.60	-17.63	1639420.55	14591028.37	40°10'35.628"N	105°00'12.838"W	2.94	
683.00	6.240	274.850	682.33	4.82	-4.37	-20.90	1639417.27	14591028.60	40°10'35.631"N	105°00'12.880"W	2.25	
715.00	6.940	271.600	714.12	4.70	-4.17	-24.57	1639413.61	14591028.81	40°10'35.633"N	105°00'12.927"W	2.48	
746.00	7.650	269.230	744.86	4.76	-4.15	-28.50	1639409.67	14591028.83	40°10'35.633"N	105°00'12.978"W	2.49	
778.00	8.750	266.150	776.54	5.05	-4.34	-33.06	1639405.12	14591028.64	40°10'35.631"N	105°00'13.037"W	3.70	
810.00	9.540	266.850	808.13	5.47	-4.65	-38.14	1639400.04	14591028.33	40°10'35.628"N	105°00'13.102"W	2.49	
842.00	10.020	265.100	839.67	5.97	-5.03	-43.56	1639394.62	14591027.95	40°10'35.624"N	105°00'13.172"W	1.76	
873.00	10.630	264.310	870.16	6.60	-5.55	-49.09	1639389.09	14591027.43	40°10'35.619"N	105°00'13.243"W	2.02	
905.00	10.940	265.360	901.60	7.27	-6.08	-55.05	1639383.13	14591026.90	40°10'35.614"N	105°00'13.320"W	1.15	
937.00	10.990	262.550	933.01	8.04	-6.72	-61.10	1639377.08	14591026.26	40°10'35.608"N	105°00'13.398"W	1.68	
969.00	10.990	262.900	964.43	8.94	-7.50	-67.16	1639371.04	14591025.48	40°10'35.600"N	105°00'13.476"W	0.21	
1000.00	10.110	266.060	994.90	9.62	-8.05	-72.80	1639365.39	14591024.93	40°10'35.594"N	105°00'13.549"W	3.40	
1032.00	9.760	266.410	1026.42	10.10	-8.41	-78.31	1639359.88	14591024.57	40°10'35.591"N	105°00'13.620"W	1.11	
1064.00	9.580	266.410	1057.97	10.55	-8.75	-83.68	1639354.52	14591024.23	40°10'35.588"N	105°00'13.689"W	0.56	
1096.00	9.400	264.660	1089.53	11.07	-9.16	-88.94	1639349.26	14591023.82	40°10'35.583"N	105°00'13.757"W	1.06	
1127.00	9.140	264.040	1120.13	11.67	-9.65	-93.90	1639344.30	14591023.33	40°10'35.579"N	105°00'13.821"W	0.90	
1159.00	8.920	263.430	1151.73	12.32	-10.20	-98.90	1639339.31	14591022.78	40°10'35.573"N	105°00'13.885"W	0.75	
1191.00	8.570	263.160	1183.36	13.00	-10.77	-103.73	1639334.48	14591022.22	40°10'35.568"N	105°00'13.947"W	1.10	
1222.00	7.690	264.570	1214.05	13.56	-11.24	-108.09	1639330.12	14591021.75	40°10'35.563"N	105°00'14.003"W	2.91	
1254.00	7.160	266.060	1245.78	13.99	-11.58	-112.21	1639326.00	14591021.41	40°10'35.560"N	105°00'14.057"W	1.76	
1286.00	7.080	265.010	1277.53	14.38	-11.88	-116.16	1639322.05	14591021.10	40°10'35.557"N	105°00'14.108"W	0.48	
1318.00	6.550	265.540	1309.30	14.78	-12.20	-119.95	1639318.27	14591020.79	40°10'35.553"N	105°00'14.156"W	1.67	
1350.00	5.710	264.220	1341.12	15.15	-12.50	-123.35	1639314.86	14591020.48	40°10'35.550"N	105°00'14.200"W	2.66	
1381.00	5.190	265.010	1371.98	15.49	-12.78	-126.28	1639311.93	14591020.21	40°10'35.548"N	105°00'14.238"W	1.69	
1413.00	4.570	272.130	1403.86	15.63	-12.86	-129.00	1639309.22	14591020.13	40°10'35.547"N	105°00'14.273"W	2.71	
1445.00	4.310	273.620	1435.77	15.56	-12.73	-131.47	1639306.75	14591020.25	40°10'35.548"N	105°00'14.305"W	0.89	
1476.00	3.520	268.260	1466.70	15.56	-12.69	-133.58	1639304.63	14591020.30	40°10'35.549"N	105°00'14.332"W	2.81	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#28 NEWBY STATE 15N-4HZ (589'FSL & 1440'FEL, SEC.33)
Area	COLORADO	Well	NEWBY STATE 15N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 15N-4HZ AWP
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (196 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
1508.00	2.860	260.350	1498.65	15.76	-12.85	-135.35	1639302.86	14591020.13	40°10'35.547"N	105°00'14.355"W	2.47	
1539.00	2.290	256.310	1529.61	16.07	-13.13	-136.72	1639301.50	14591019.86	40°10'35.544"N	105°00'14.372"W	1.93	
1571.00	1.800	254.290	1561.59	16.38	-13.42	-137.82	1639300.40	14591019.57	40°10'35.541"N	105°00'14.387"W	1.55	
1603.00	1.630	250.590	1593.58	16.69	-13.70	-138.74	1639299.48	14591019.28	40°10'35.539"N	105°00'14.398"W	0.63	
1635.00	0.880	251.120	1625.57	16.93	-13.93	-139.40	1639298.82	14591019.05	40°10'35.536"N	105°00'14.407"W	2.34	
1666.00	0.350	234.160	1656.57	17.07	-14.07	-139.70	1639298.52	14591018.92	40°10'35.535"N	105°00'14.411"W	1.79	
1698.00	0.170	323.020	1688.57	17.09	-14.09	-139.81	1639298.41	14591018.90	40°10'35.535"N	105°00'14.412"W	1.21	
1730.00	0.040	185.290	1720.57	17.07	-14.06	-139.84	1639298.38	14591018.93	40°10'35.535"N	105°00'14.413"W	0.63	
1762.00	0.260	231.510	1752.57	17.12	-14.12	-139.89	1639298.32	14591018.87	40°10'35.535"N	105°00'14.413"W	0.73	
1793.00	0.130	39.310	1783.57	17.14	-14.13	-139.93	1639298.29	14591018.85	40°10'35.534"N	105°00'14.414"W	1.25	
1825.00	0.220	328.550	1815.57	17.06	-14.05	-139.94	1639298.28	14591018.93	40°10'35.535"N	105°00'14.414"W	0.67	
1857.00	0.220	156.990	1847.57	17.07	-14.06	-139.94	1639298.28	14591018.93	40°10'35.535"N	105°00'14.414"W	1.37	
1889.00	0.310	177.380	1879.57	17.21	-14.20	-139.92	1639298.30	14591018.79	40°10'35.534"N	105°00'14.414"W	0.40	
1920.00	0.260	198.560	1910.57	17.36	-14.35	-139.94	1639298.28	14591018.64	40°10'35.532"N	105°00'14.414"W	0.37	
1952.00	0.480	264.570	1942.57	17.44	-14.43	-140.09	1639298.13	14591018.56	40°10'35.531"N	105°00'14.416"W	1.39	
1984.00	0.480	289.180	1974.57	17.42	-14.40	-140.35	1639297.87	14591018.59	40°10'35.532"N	105°00'14.419"W	0.64	
2015.00	0.700	250.950	2005.57	17.44	-14.42	-140.65	1639297.57	14591018.57	40°10'35.532"N	105°00'14.423"W	1.42	
2047.00	0.830	257.100	2037.56	17.57	-14.53	-141.06	1639297.16	14591018.45	40°10'35.530"N	105°00'14.428"W	0.48	
2079.00	0.350	264.480	2069.56	17.64	-14.59	-141.39	1639296.83	14591018.39	40°10'35.530"N	105°00'14.432"W	1.52	
2111.00	0.570	290.760	2101.56	17.59	-14.55	-141.63	1639296.59	14591018.44	40°10'35.530"N	105°00'14.436"W	0.94	
2142.00	0.260	264.390	2132.56	17.55	-14.50	-141.85	1639296.37	14591018.49	40°10'35.531"N	105°00'14.438"W	1.15	
2174.00	0.700	264.830	2164.56	17.58	-14.52	-142.11	1639296.11	14591018.46	40°10'35.530"N	105°00'14.442"W	1.38	
2205.00	1.050	278.280	2195.55	17.57	-14.50	-142.58	1639295.64	14591018.48	40°10'35.531"N	105°00'14.448"W	1.30	LAST SURFACE MWD+IFR1 SURVEY
2305.00	0.780	292.630	2295.54	17.21	-14.11	-144.12	1639294.10	14591018.88	40°10'35.535"N	105°00'14.468"W	0.35	FIRST BHGE MWD+IFR1+SC SURVEY
2399.00	2.950	334.970	2389.49	14.80	-11.67	-145.73	1639292.49	14591021.32	40°10'35.559"N	105°00'14.488"W	2.59	
2493.00	4.910	352.310	2483.27	8.66	-5.49	-147.30	1639290.93	14591027.49	40°10'35.620"N	105°00'14.509"W	2.42	
2587.00	7.190	349.810	2576.74	-1.08	4.29	-148.87	1639289.35	14591037.27	40°10'35.716"N	105°00'14.529"W	2.44	
2681.00	8.710	1.350	2669.84	-13.97	17.19	-149.75	1639288.48	14591050.17	40°10'35.844"N	105°00'14.540"W	2.34	
2775.00	10.660	2.150	2762.49	-29.78	33.00	-149.25	1639288.97	14591065.97	40°10'36.000"N	105°00'14.534"W	2.08	
2869.00	12.200	6.020	2854.63	-48.37	51.57	-147.89	1639290.34	14591084.53	40°10'36.184"N	105°00'14.516"W	1.83	
2963.00	11.450	3.100	2946.63	-67.59	70.76	-146.34	1639291.89	14591103.71	40°10'36.373"N	105°00'14.496"W	1.02	
3057.00	10.170	0.610	3038.96	-85.22	88.38	-145.75	1639292.48	14591121.32	40°10'36.547"N	105°00'14.489"W	1.45	
3151.00	11.630	6.210	3131.27	-102.96	106.10	-144.63	1639293.59	14591139.03	40°10'36.722"N	105°00'14.474"W	1.92	
3245.00	10.260	2.950	3223.56	-120.76	123.88	-143.18	1639295.05	14591156.81	40°10'36.898"N	105°00'14.456"W	1.60	
3338.00	11.310	7.490	3314.91	-138.11	141.19	-141.56	1639296.66	14591174.11	40°10'37.069"N	105°00'14.435"W	1.45	
3432.00	10.250	6.220	3407.25	-155.60	158.64	-139.45	1639298.77	14591191.56	40°10'37.242"N	105°00'14.408"W	1.16	
3526.00	12.140	4.450	3499.46	-173.81	176.81	-137.78	1639300.44	14591209.72	40°10'37.421"N	105°00'14.386"W	2.04	
3620.00	11.390	0.230	3591.49	-192.95	195.95	-136.98	1639301.25	14591228.85	40°10'37.610"N	105°00'14.376"W	1.21	
3740.00	10.750	358.730	3709.25	-215.98	218.99	-137.18	1639301.05	14591251.88	40°10'37.838"N	105°00'14.378"W	0.58	
3834.00	10.350	356.380	3801.67	-233.16	236.18	-137.91	1639300.32	14591269.06	40°10'38.008"N	105°00'14.388"W	0.62	
4022.00	7.660	359.170	3987.33	-262.51	265.57	-139.15	1639299.08	14591298.44	40°10'38.298"N	105°00'14.404"W	1.45	
4103.00†	7.181	354.028	4067.65	-272.93	276.00	-139.76	1639298.47	14591308.87	40°10'38.401"N	105°00'14.412"W	1.01	ENTER LANDBOX (865'FSL & 1579'FEL, SEC.33) 40.1773337 -105.0040032
4116.00	7.110	353.140	4080.55	-274.53	277.61	-139.94	1639298.29	14591310.48	40°10'38.417"N	105°00'14.414"W	1.01	
4210.00	5.640	7.880	4173.98	-284.88	287.96	-140.00	1639298.23	14591320.83	40°10'38.520"N	105°00'14.415"W	2.33	
4304.00	3.300	358.570	4267.68	-292.17	295.24	-139.43	1639298.80	14591328.10	40°10'38.592"N	105°00'14.407"W	2.60	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#28 NEWBY STATE 15N-4HZ (589°FSL & 1440°FEL, SEC.33)
Area	COLORADO	Well	NEWBY STATE 15N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 15N-4HZ AWP
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (196 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
4397.00	1.710	57.680	4360.61	-295.61	298.66	-138.33	1639299.90	14591331.52	40°10'38.625"N	105°00'14.393"W	3.04	
4491.00	1.890	139.140	4454.57	-295.24	298.24	-136.13	1639302.10	14591331.10	40°10'38.621"N	105°00'14.365"W	2.50	
4584.00	1.540	136.880	4547.53	-293.21	296.17	-134.27	1639303.96	14591329.03	40°10'38.601"N	105°00'14.341"W	0.38	
4678.00	1.230	134.480	4641.50	-291.61	294.54	-132.69	1639305.54	14591327.40	40°10'38.585"N	105°00'14.320"W	0.34	
4773.00	0.840	117.560	4736.49	-290.60	293.50	-131.34	1639306.89	14591326.36	40°10'38.574"N	105°00'14.303"W	0.52	
4867.00	0.480	64.820	4830.48	-290.47	293.35	-130.38	1639307.85	14591326.21	40°10'38.573"N	105°00'14.291"W	0.71	
4961.00	0.920	10.130	4924.48	-291.39	294.26	-129.89	1639308.34	14591327.12	40°10'38.582"N	105°00'14.284"W	0.80	
5056.00	1.110	217.640	5019.47	-291.41	294.28	-130.32	1639307.91	14591327.14	40°10'38.582"N	105°00'14.290"W	2.08	
5150.00	0.920	234.800	5113.46	-290.23	293.13	-131.49	1639306.74	14591325.99	40°10'38.571"N	105°00'14.305"W	0.38	
5243.00	2.320	168.210	5206.42	-287.95	290.85	-131.71	1639306.52	14591323.72	40°10'38.548"N	105°00'14.308"W	2.29	
5336.00	2.000	170.840	5299.36	-284.52	287.41	-131.07	1639307.16	14591320.27	40°10'38.514"N	105°00'14.300"W	0.36	
5430.00	1.260	180.210	5393.32	-281.87	284.75	-130.81	1639307.42	14591317.62	40°10'38.488"N	105°00'14.296"W	0.83	
5524.00	0.530	213.850	5487.31	-280.47	283.36	-131.06	1639307.17	14591316.23	40°10'38.474"N	105°00'14.299"W	0.93	
5619.00	0.770	223.580	5582.30	-279.63	283.06	-131.74	1639306.48	14591315.40	40°10'38.466"N	105°00'14.308"W	0.28	
5713.00	2.280	159.910	5676.27	-277.42	280.32	-131.54	1639306.69	14591313.19	40°10'38.444"N	105°00'14.306"W	2.19	
5807.00	1.700	160.160	5770.21	-274.38	277.25	-130.42	1639307.81	14591310.12	40°10'38.414"N	105°00'14.291"W	0.62	
5901.00	1.180	171.300	5864.18	-272.12	274.98	-129.80	1639308.43	14591307.85	40°10'38.391"N	105°00'14.283"W	0.63	
5994.00	0.720	198.380	5957.17	-270.62	273.48	-129.84	1639308.39	14591306.35	40°10'38.377"N	105°00'14.284"W	0.68	
6088.00	1.320	171.960	6051.15	-268.99	271.85	-129.88	1639308.35	14591304.72	40°10'38.360"N	105°00'14.284"W	0.80	
6183.00	4.320	168.170	6146.03	-264.42	267.26	-128.99	1639309.24	14591300.13	40°10'38.315"N	105°00'14.273"W	3.16	
6277.00	2.700	170.140	6239.85	-258.80	261.62	-127.88	1639310.34	14591294.49	40°10'38.259"N	105°00'14.259"W	1.73	
6370.00	0.700	171.310	6332.80	-256.09	258.90	-127.42	1639310.80	14591291.77	40°10'38.232"N	105°00'14.253"W	2.15	
6371.00†	0.790	173.180	6333.80	-256.08	258.88	-127.42	1639310.80	14591291.76	40°10'38.232"N	105°00'14.253"W	9.34	KOP
6464.00	9.450	186.180	6426.34	-247.82	250.64	-128.17	1639310.06	14591283.52	40°10'38.151"N	105°00'14.262"W	9.34	
6558.00	19.600	180.810	6517.22	-224.31	227.14	-129.23	1639309.00	14591260.03	40°10'37.919"N	105°00'14.276"W	10.88	
6651.00	28.170	184.150	6602.18	-186.71	189.58	-131.04	1639307.19	14591222.48	40°10'37.547"N	105°00'14.299"W	9.33	
6745.00	29.450	181.460	6684.55	-141.44	144.34	-133.23	1639304.99	14591177.27	40°10'37.100"N	105°00'14.327"W	1.94	
6839.00	33.050	177.340	6764.91	-92.74	95.62	-132.63	1639305.59	14591128.56	40°10'36.619"N	105°00'14.320"W	4.45	
6934.00	40.810	181.040	6840.80	-35.75	38.61	-131.99	1639306.23	14591071.57	40°10'36.056"N	105°00'14.311"W	8.49	
7028.00	45.180	181.930	6909.54	28.33	-25.46	-133.67	1639304.54	14591007.53	40°10'35.422"N	105°00'14.333"W	4.69	
7122.00	48.270	184.700	6973.97	96.70	-93.76	-137.67	1639300.55	14590939.26	40°10'34.747"N	105°00'14.385"W	3.92	
7216.00	52.210	184.810	7034.08	168.81	-165.75	-143.66	1639294.55	14590867.29	40°10'34.036"N	105°00'14.462"W	4.19	
7310.00	58.160	180.260	7087.74	245.90	-242.79	-146.96	1639291.25	14590790.29	40°10'33.275"N	105°00'14.504"W	7.47	
7403.00	65.440	180.910	7131.66	327.80	-324.69	-147.81	1639290.40	14590708.42	40°10'32.465"N	105°00'14.515"W	7.85	
7497.00	67.250	181.660	7169.38	413.90	-410.77	-149.75	1639288.46	14590622.38	40°10'31.615"N	105°00'14.540"W	2.06	
7591.00	72.740	181.710	7201.52	502.19	-499.02	-152.35	1639285.86	14590534.16	40°10'30.743"N	105°00'14.574"W	5.84	
7685.00	83.780	179.740	7220.62	594.07	-590.90	-153.48	1639284.73	14590442.32	40°10'29.835"N	105°00'14.588"W	11.92	
7716.00	87.350	181.120	7223.02	624.97	-621.80	-153.71	1639284.49	14590411.43	40°10'29.529"N	105°00'14.591"W	12.34	LANDING (33°FNL & 1594°FEL, SEC.04) 40.1748693 -105.0040531
7779.00	89.540	180.650	7224.73	687.94	-684.77	-154.68	1639283.52	14590348.49	40°10'28.907"N	105°00'14.604"W	3.56	
7874.00	91.460	178.960	7223.90	782.90	-779.76	-154.36	1639283.84	14590253.54	40°10'27.968"N	105°00'14.600"W	2.69	
7967.00	89.970	179.510	7222.74	875.83	-872.74	-153.12	1639285.07	14590160.59	40°10'27.050"N	105°00'14.584"W	1.71	
8056.00†	88.332	180.741	7224.06	964.80	-961.72	-153.31	1639284.88	14590071.64	40°10'26.170"N	105°00'14.586"W	2.30	EXIT RADIUS HEEL (373°FNL & 1594°FEL, SEC.04) 40.1739362 -105.0040517
8061.00	88.240	180.810	7224.21	969.80	-966.72	-153.38	1639284.81	14590066.65	40°10'26.121"N	105°00'14.587"W	2.30	
8156.00	90.590	180.600	7225.18	1064.78	-1061.70	-154.55	1639283.64	14589971.71	40°10'25.182"N	105°00'14.602"W	2.48	
8250.00	91.450	180.350	7223.50	1158.76	-1155.68	-155.33	1639282.85	14589877.76	40°10'24.254"N	105°00'14.612"W	0.95	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#28 NEWBY STATE 15N-4HZ (589'FSL & 1440'FEL, SEC.33)
Area	COLORADO	Well	NEWBY STATE 15N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 15N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (196 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
8343.00	90.520	180.830	7221.90	1251.74	-1248.66	-156.28	1639281.89	14589784.82	40°10'23.335"N	105°00'14.624"W	1.13	
8437.00	87.350	179.380	7223.65	1345.69	-1342.63	-156.46	1639281.72	14589690.89	40°10'22.406"N	105°00'14.627"W	3.71	
8530.00	88.120	179.320	7227.33	1438.57	-1435.55	-155.40	1639282.77	14589598.01	40°10'21.488"N	105°00'14.613"W	0.83	
8624.00	88.180	180.970	7230.36	1532.50	-1529.50	-155.64	1639282.53	14589504.10	40°10'20.559"N	105°00'14.616"W	1.76	
8719.00	88.550	180.920	7233.07	1627.46	-1624.45	-157.21	1639280.96	14589409.19	40°10'19.621"N	105°00'14.636"W	0.39	
8813.00	88.890	183.040	7235.17	1721.42	-1718.36	-160.45	1639277.71	14589315.31	40°10'18.693"N	105°00'14.678"W	2.28	
8907.00	89.320	181.380	7236.64	1815.39	-1812.28	-164.08	1639274.08	14589221.43	40°10'17.765"N	105°00'14.725"W	1.82	
9001.00	88.520	182.160	7238.41	1909.37	-1906.21	-166.98	1639271.18	14589127.53	40°10'16.837"N	105°00'14.762"W	1.19	
9095.00	88.830	181.640	7240.58	2003.34	-2000.14	-170.10	1639268.06	14589033.65	40°10'15.909"N	105°00'14.802"W	0.64	
9189.00	89.570	180.450	7241.90	2097.32	-2094.11	-171.81	1639266.34	14588939.71	40°10'14.980"N	105°00'14.824"W	1.49	
9283.00	89.540	181.350	7242.63	2191.32	-2188.10	-173.29	1639264.86	14588845.77	40°10'14.051"N	105°00'14.843"W	0.96	
9377.00	87.660	181.610	7244.92	2285.29	-2282.03	-175.71	1639262.43	14588751.87	40°10'13.123"N	105°00'14.874"W	2.02	
9471.00	88.090	181.910	7248.41	2379.22	-2375.92	-178.60	1639259.54	14588658.01	40°10'12.195"N	105°00'14.912"W	0.56	
9565.00	89.880	182.660	7250.07	2473.18	-2469.83	-182.35	1639255.79	14588564.15	40°10'11.267"N	105°00'14.960"W	2.06	
9659.00	91.050	181.280	7249.31	2567.17	-2563.77	-185.58	1639252.56	14588470.25	40°10'10.339"N	105°00'15.002"W	1.92	
9753.00	89.910	182.710	7248.52	2661.15	-2657.70	-188.85	1639249.29	14588376.35	40°10'09.411"N	105°00'15.044"W	1.95	
9846.00	88.550	182.710	7249.77	2754.11	-2750.59	-193.25	1639244.89	14588283.50	40°10'08.493"N	105°00'15.100"W	1.46	
9940.00	90.000	182.810	7250.96	2848.07	-2844.47	-197.77	1639240.36	14588189.66	40°10'07.565"N	105°00'15.159"W	1.55	
10035.00	89.320	182.800	7251.53	2943.03	-2939.35	-202.42	1639235.71	14588094.81	40°10'06.627"N	105°00'15.218"W	0.72	
10129.00	89.880	184.260	7252.18	3036.95	-3033.17	-208.21	1639229.92	14588001.03	40°10'05.700"N	105°00'15.293"W	1.66	
10222.00	88.370	182.540	7253.60	3129.87	-3125.99	-213.72	1639224.40	14587908.25	40°10'04.783"N	105°00'15.364"W	2.46	
10316.00	89.200	182.640	7255.60	3223.82	-3219.87	-217.97	1639220.15	14587814.41	40°10'03.855"N	105°00'15.419"W	0.89	
10410.00	91.660	183.350	7254.89	3317.76	-3313.73	-222.88	1639215.24	14587720.58	40°10'02.928"N	105°00'15.482"W	2.72	
10503.00	89.850	180.230	7253.67	3410.73	-3406.66	-225.78	1639212.34	14587627.69	40°10'02.009"N	105°00'15.519"W	3.88	
10597.00	87.810	178.460	7255.59	3504.65	-3500.63	-224.71	1639213.41	14587533.76	40°10'01.081"N	105°00'15.506"W	2.87	
10691.00	89.290	179.170	7257.96	3598.54	-3594.57	-222.77	1639215.34	14587439.85	40°10'00.152"N	105°00'15.480"W	1.75	
10786.00	90.740	178.950	7257.94	3693.47	-3689.56	-221.21	1639216.90	14587344.91	40°09'59.214"N	105°00'15.460"W	1.54	
10880.00	88.520	179.370	7258.55	3787.40	-3783.54	-219.83	1639218.27	14587250.96	40°09'58.285"N	105°00'15.443"W	2.40	
10974.00	88.120	181.840	7261.30	3881.34	-3877.49	-220.82	1639217.28	14587157.05	40°09'57.357"N	105°00'15.455"W	2.66	
11068.00	89.450	181.310	7263.30	3975.32	-3971.43	-223.41	1639214.69	14587063.15	40°09'56.428"N	105°00'15.489"W	1.52	
11162.00	88.740	183.210	7264.78	4069.29	-4065.34	-227.11	1639210.98	14586969.28	40°09'55.500"N	105°00'15.536"W	2.16	
11256.00	86.300	183.350	7268.85	4163.13	-4159.09	-232.48	1639205.61	14586875.57	40°09'54.574"N	105°00'15.606"W	2.60	
11350.00	86.240	182.660	7274.96	4256.89	-4252.76	-237.40	1639200.69	14586781.93	40°09'53.648"N	105°00'15.669"W	0.74	
11444.00	86.490	182.200	7280.92	4350.68	-4346.49	-241.38	1639196.71	14586688.24	40°09'52.722"N	105°00'15.720"W	0.56	
11538.00	86.760	181.310	7286.46	4444.51	-4440.28	-244.25	1639193.83	14586594.49	40°09'51.795"N	105°00'15.757"W	0.99	
11632.00	87.170	181.110	7291.43	4538.38	-4534.13	-246.24	1639191.85	14586500.68	40°09'50.868"N	105°00'15.783"W	0.49	
11726.00	87.500	181.040	7295.80	4632.28	-4628.01	-248.00	1639190.08	14586406.84	40°09'49.940"N	105°00'15.805"W	0.36	
11820.00	88.000	181.050	7299.49	4726.20	-4721.92	-249.71	1639188.37	14586312.96	40°09'49.012"N	105°00'15.827"W	0.53	
11914.00	88.090	180.910	7302.70	4820.15	-4815.85	-251.32	1639186.76	14586219.07	40°09'48.084"N	105°00'15.848"W	0.18	
12008.00	88.770	180.590	7305.28	4914.11	-4909.81	-252.55	1639185.53	14586125.15	40°09'47.155"N	105°00'15.864"W	0.80	
12102.00	89.510	180.530	7306.69	5008.09	-5003.79	-253.47	1639184.60	14586031.20	40°09'46.226"N	105°00'15.876"W	0.79	
12196.00	90.830	180.530	7306.41	5102.08	-5097.78	-254.33	1639183.73	14585937.25	40°09'45.298"N	105°00'15.887"W	1.40	
12290.00	90.280	181.390	7305.50	5196.07	-5191.77	-255.91	1639182.15	14585843.31	40°09'44.369"N	105°00'15.907"W	1.09	
12384.00	89.140	182.760	7305.97	5290.06	-5285.70	-259.31	1639178.75	14585749.41	40°09'43.441"N	105°00'15.951"W	1.90	
12478.00	90.280	183.080	7306.45	5384.01	-5379.57	-264.10	1639173.96	14585655.57	40°09'42.513"N	105°00'16.013"W	1.26	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#28 NEWBY STATE 15N-4HZ (589'FSL & 1440'FEL, SEC.33)
Area	COLORADO	Well	NEWBY STATE 15N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 15N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (196 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
12571.00	89.140	183.460	7306.92	5476.95	-5472.42	-269.41	1639168.65	14585562.77	40°09'41.595"N	105°00'16.081"W	1.29	
12607.00†	89.351	183.433	7307.39	5512.92	-5508.35	-271.57	1639166.49	14585526.85	40°09'41.240"N	105°00'16.109"W	0.59	ENTER RADIUS TOE (326'FSL & 1652'FEL, SEC.04) 40.1614556 -105.0044747
12665.00	89.690	183.390	7307.88	5570.88	-5566.25	-275.02	1639163.03	14585468.98	40°09'40.668"N	105°00'16.153"W	0.59	
12759.00	90.680	183.490	7307.58	5664.81	-5660.08	-280.66	1639157.39	14585375.19	40°09'39.741"N	105°00'16.226"W	1.06	
12854.00	89.510	182.070	7307.42	5759.77	-5754.96	-285.27	1639152.78	14585280.34	40°09'38.803"N	105°00'16.285"W	1.94	
12947.00	89.290	182.700	7308.39	5852.74	-5847.87	-289.14	1639148.91	14585187.46	40°09'37.885"N	105°00'16.335"W	0.72	
13041.00	89.690	182.060	7309.23	5946.72	-5941.79	-293.04	1639145.01	14585093.59	40°09'36.957"N	105°00'16.385"W	0.80	
13136.00	90.120	181.500	7309.39	6041.72	-6036.74	-295.99	1639142.05	14584998.67	40°09'36.019"N	105°00'16.423"W	0.74	
13230.00	90.120	180.310	7309.19	6135.71	-6130.73	-297.48	1639140.56	14584904.72	40°09'35.090"N	105°00'16.442"W	1.27	
13324.00	90.310	179.570	7308.84	6229.69	-6224.73	-297.38	1639140.66	14584810.76	40°09'34.161"N	105°00'16.441"W	0.81	
13418.00	90.800	179.410	7307.93	6323.64	-6318.72	-296.54	1639141.49	14584716.81	40°09'33.232"N	105°00'16.430"W	0.55	
13513.00	91.320	178.450	7306.17	6418.54	-6413.68	-294.77	1639143.26	14584621.88	40°09'32.294"N	105°00'16.407"W	1.15	
13606.00	91.570	178.020	7303.82	6511.39	-6506.61	-291.91	1639146.12	14584528.99	40°09'31.375"N	105°00'16.371"W	0.53	
13700.00	92.070	177.650	7300.84	6605.17	-6600.49	-288.36	1639149.66	14584435.14	40°09'30.448"N	105°00'16.325"W	0.66	
13715.00	92.100	177.600	7300.29	6620.13	-6615.47	-287.73	1639150.28	14584420.17	40°09'30.300"N	105°00'16.317"W	0.39	LAST BHGE MWD+IFR1+SC SURVEY
13762.00	92.100	177.600	7298.57	6667.01	-6662.40	-285.77	1639152.25	14584373.26	40°09'29.836"N	105°00'16.292"W	0.00	PTB (828'FNL & 1665'FEL, SEC.09) 40.1582878 -105.0045254

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
NEWBY STATE 15N-4HZ HEEL REV-1(51'FNL & 1592'FEL, SEC.04)	7237.00	-641.20	-152.28	1639285.92	14590392.03	40°10'29.338"N	105°00'14.573"W	point
NEWBY STATE 15N-4HZ BHL REV-1(830'FNL & 1661'FEL, SEC.09)	7297.00	-6663.77	-282.02	1639156.00	14584371.90	40°09'29.822"N	105°00'16.243"W	point
NEWBY STATE 15N-4HZ LANDBOX	7297.00	0.00	0.00	1639438.16	14591032.97	40°10'35.674"N	105°00'12.611"W	polygon
NEWBY STATE 15N-4HZ RADIUS 1	7297.00	-588.01	113.60	1639551.70	14590445.20	40°10'29.863"N	105°00'11.147"W	polygon
NEWBY STATE 15N-4HZ RADIUS 2	7297.00	-5826.41	58.29	1639496.20	14585208.90	40°09'38.097"N	105°00'11.860"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: NEWBY STATE 15N-4HZ AWB Ref Wellpath: NEWBY STATE 15N-4HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.00	2205.00	Custom APC_ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC_ISCWSA Rev-2 MWD+IFR1 <144 - 2205>	NEWBY STATE 15N-4HZ AWB
2205.00	13715.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHGE Custom APC_ISCWSA Rev-2 MWD+IFR1+SC <2305 - 13715>	NEWBY STATE 15N-4HZ AWB
13715.00	13762.00	Blind Drilling (std)	Projection to bit	NEWBY STATE 15N-4HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#28 NEWBY STATE 15N-4HZ (589'FSL & 1440'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 15N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 15N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
144.00	0.660	168.150	144.00	FIRST SURFACE MWD+IFR1 SURVEY
2205.00	1.050	278.280	2195.55	LAST SURFACE MWD+IFR1 SURVEY
2305.00	0.780	292.630	2295.54	FIRST BHGE MWD+IFR1+SC SURVEY
4103.00	7.181	354.028	4067.65	ENTER LANDBOX (865'FSL & 1579'FEL,SEC.33) 40.1773337 -105.0040032
6371.00	0.790	173.180	6333.80	KOP
7716.00	87.350	181.120	7223.02	LANDING (33'FNL & 1594'FEL,SEC.04) 40.1748693 -105.0040531
8056.00	88.332	180.741	7224.06	EXIT RADIUS HEEL (373'FNL & 1594'FEL,SEC.04) 40.1739362 -105.0040517
12607.00	89.351	183.433	7307.39	ENTER RADIUS TOE (326'FSL & 1652'FEL,SEC.04) 40.1614556 -105.0044747
13715.00	92.100	177.600	7300.29	LAST BHGE MWD+IFR1+SC SURVEY
13762.00	92.100	177.600	7298.57	PTB (828'FNL & 1665'FEL,SEC.09) 40.1582878 -105.0045254