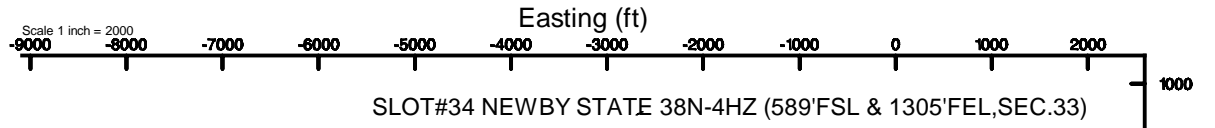


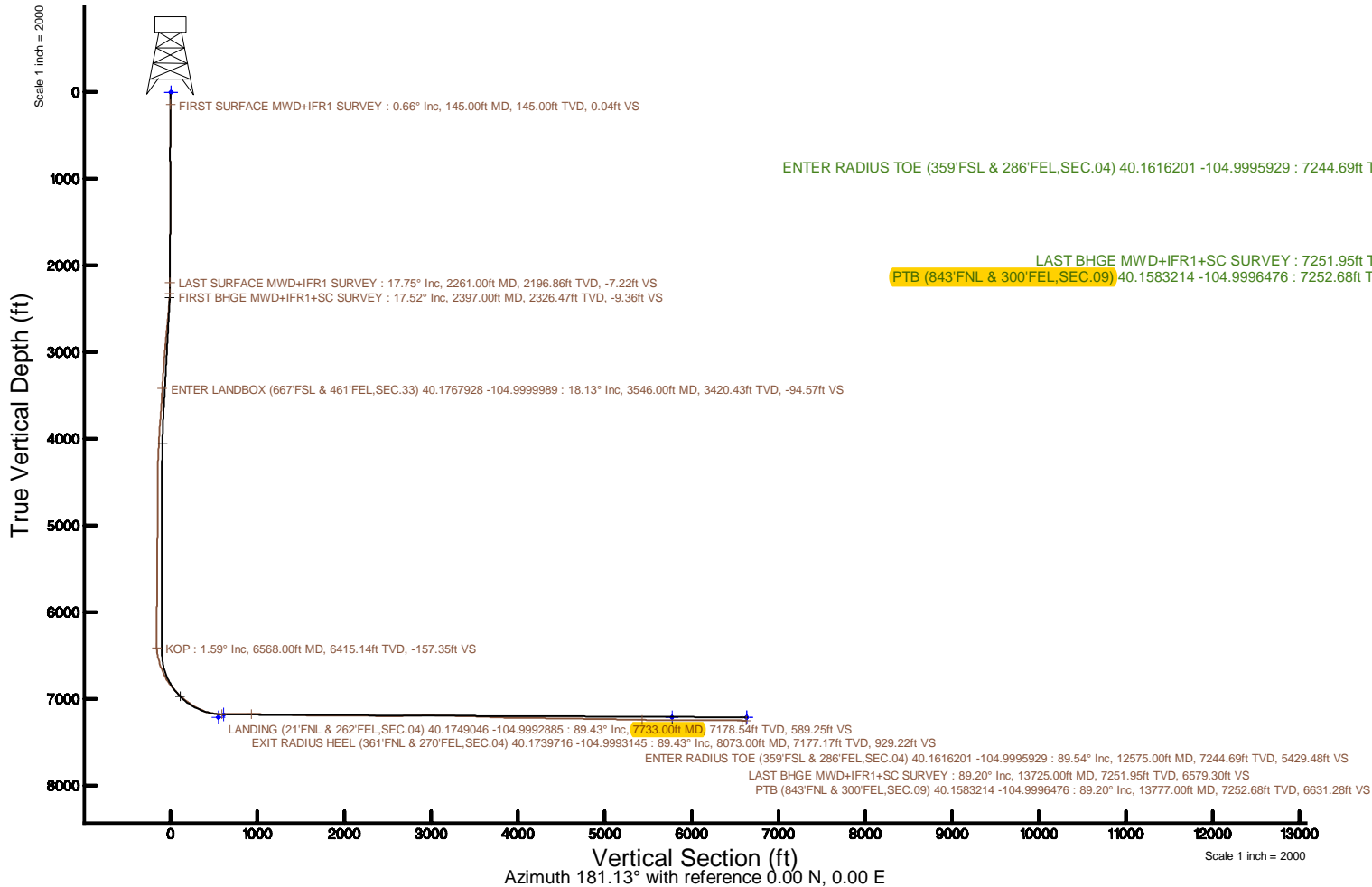
# KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#34 NEWBY STATE 38N-4HZ (589'FSL & 1305'FEL,SEC.33)  
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: NEWBY STATE 38N-4HZ  
 Facility: SEC.33-T3N-R68W Wellbore: NEWBY STATE 38N-4HZ PWB

Plot reference wellpath is NEWBY STATE 38N-4HZ PWP Rev.8.0	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#34 NEWBY STATE 38N-4HZ (589'FSL & 1305'FEL,SEC.33)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2018-01-29
	Database: WA_DEN_Anadarko_Deh



KOP : 6415.14ft TVD, 136.55ft N, 1056.96ft E  
 ENTER LANDBOX (667'FSL & 461'FEL,SEC.33) 40.1767928 -104.9999989 : 3420.43ft TVD, 77.96ft N, 844.22ft E  
 FIRST SURFACE MWD+IFR1 SURVEY : 145.00ft TVD, 0.05ft S, 0.65ft E  
 FIRST BHGE MWD+IFR1+SC SURVEY : 2326.47ft TVD, 0.54ft S, 502.28ft E  
 LAST SURFACE MWD+IFR1 SURVEY : 2196.86ft TVD, 1.87ft S, 461.11ft E  
**LANDING (21'FNL & 262'FEL,SEC.04) 40.1749046 -104.9992885 : 7178.54ft TVD, 609.91ft S, 1042.76ft E**  
 EXIT RADIUS HEEL (361'FNL & 270'FEL,SEC.04) 40.1739716 -104.9993145 : 7177.17ft TVD, 949.80ft S, 1035.50ft E



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 NEWBY STATE 38N-4HZ (589'FSL & 1305'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 38N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 38N-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	1/29/2018 at 10:06 AM
Convergence at slot	0.00°	Database/Source file	WA_DEN_Anadarko_Defn/NEWBY_STATE_38N-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	-674.21	2699.40	1639573.10	14591033.98	40°10'35.684"N	105°00'10.872"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#34 NEWBY STATE 38N-4HZ (589'FSL & 1305'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	181.13°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 NEWBY STATE 38N-4HZ (589'FSL & 1305'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 38N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 38N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (197 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	94.760	0.00	0.00	0.00	0.00	1639573.10	14591033.98	40°10'35.684"N	105°00'10.872"W	0.00	
32.00	0.000	94.760	32.00	0.00	0.00	0.00	1639573.10	14591033.98	40°10'35.684"N	105°00'10.872"W	0.00	
145.00	0.660	94.760	145.00	0.04	-0.05	0.65	1639573.74	14591033.93	40°10'35.683"N	105°00'10.864"W	0.58	FIRST SURFACE MWD+IFR1 SURVEY
177.00	1.010	70.150	176.99	-0.05	0.03	1.10	1639574.19	14591034.01	40°10'35.684"N	105°00'10.858"W	1.54	
209.00	1.230	60.570	208.99	-0.32	0.29	1.66	1639574.76	14591034.27	40°10'35.687"N	105°00'10.851"W	0.90	
240.00	1.710	55.130	239.98	-0.76	0.72	2.33	1639575.43	14591034.70	40°10'35.691"N	105°00'10.842"W	1.61	
271.00	1.270	60.400	270.97	-1.21	1.15	3.01	1639576.10	14591035.13	40°10'35.695"N	105°00'10.833"W	1.49	
303.00	1.360	105.750	302.96	-1.30	1.23	3.68	1639576.78	14591035.21	40°10'35.696"N	105°00'10.825"W	3.18	
334.00	1.850	126.580	333.95	-0.91	0.83	4.44	1639577.53	14591034.81	40°10'35.692"N	105°00'10.815"W	2.43	
366.00	1.890	127.460	365.93	-0.30	2.00	5.27	1639578.37	14591034.18	40°10'35.686"N	105°00'10.804"W	0.15	
397.00	1.410	106.720	396.92	0.10	-0.22	6.04	1639579.14	14591033.76	40°10'35.682"N	105°00'10.794"W	2.45	
429.00	1.930	81.320	428.90	0.12	-0.25	6.95	1639580.05	14591033.73	40°10'35.681"N	105°00'10.782"W	2.79	
461.00	2.860	77.010	460.88	-0.17	0.01	8.26	1639581.36	14591033.99	40°10'35.684"N	105°00'10.766"W	2.96	
492.00	3.080	77.450	491.83	-0.55	0.36	9.83	1639582.92	14591034.34	40°10'35.688"N	105°00'10.745"W	0.71	
524.00	3.600	74.730	523.78	-1.04	0.81	11.64	1639584.73	14591034.79	40°10'35.692"N	105°00'10.722"W	1.70	
555.00	4.920	74.810	554.69	-1.69	1.42	13.86	1639586.95	14591035.40	40°10'35.698"N	105°00'10.693"W	4.26	
587.00	5.930	74.730	586.55	-2.54	2.21	16.78	1639589.87	14591036.19	40°10'35.706"N	105°00'10.656"W	3.16	
619.00	6.720	77.540	618.36	-3.45	3.05	20.20	1639593.29	14591037.03	40°10'35.714"N	105°00'10.612"W	2.65	
651.00	7.690	82.810	650.10	-4.20	3.72	24.16	1639597.24	14591037.70	40°10'35.721"N	105°00'10.561"W	3.67	
683.00	8.440	87.560	681.79	-4.65	4.09	28.63	1639601.71	14591038.07	40°10'35.724"N	105°00'10.503"W	3.13	
714.00	9.010	90.720	712.43	-4.81	4.16	33.33	1639606.41	14591038.14	40°10'35.725"N	105°00'10.443"W	2.40	
746.00	9.270	92.390	744.02	-4.77	4.02	38.41	1639611.49	14591038.00	40°10'35.724"N	105°00'10.377"W	1.16	
778.00	9.400	95.820	775.60	-4.50	3.65	43.58	1639616.66	14591037.62	40°10'35.720"N	105°00'10.311"W	1.79	
810.00	9.840	97.400	807.15	-3.99	3.03	48.89	1639621.97	14591037.01	40°10'35.714"N	105°00'10.242"W	1.60	
842.00	10.060	100.390	838.67	-3.24	2.17	54.35	1639627.43	14591036.15	40°10'35.705"N	105°00'10.172"W	1.75	
873.00	10.550	101.270	869.17	-2.31	1.13	59.80	1639632.87	14591035.11	40°10'35.695"N	105°00'10.102"W	1.66	
905.00	10.720	98.280	900.62	-1.42	0.13	65.62	1639638.69	14591034.11	40°10'35.685"N	105°00'10.027"W	1.80	
937.00	11.510	94.410	932.02	-0.87	-0.55	71.75	1639644.81	14591033.43	40°10'35.679"N	105°00'09.948"W	3.39	
968.00	12.170	90.980	962.36	-0.70	-0.84	78.10	1639651.16	14591033.14	40°10'35.676"N	105°00'09.866"W	3.11	
1000.00	12.880	89.580	993.60	-0.81	-0.87	85.04	1639658.10	14591033.11	40°10'35.675"N	105°00'09.776"W	2.41	
1032.00	13.540	89.400	1024.75	-1.01	-0.81	92.35	1639665.41	14591033.17	40°10'35.676"N	105°00'09.682"W	2.07	
1064.00	14.940	90.810	1055.77	-1.15	-0.82	100.22	1639673.28	14591033.15	40°10'35.676"N	105°00'09.581"W	4.51	
1096.00	15.600	93.010	1086.64	-1.03	-1.11	108.64	1639681.69	14591032.87	40°10'35.673"N	105°00'09.472"W	2.74	
1127.00	16.080	93.540	1116.46	-0.72	-1.59	117.09	1639690.14	14591032.39	40°10'35.668"N	105°00'09.364"W	1.62	
1159.00	15.730	93.890	1147.23	-0.32	-2.16	125.84	1639698.88	14591031.82	40°10'35.663"N	105°00'09.251"W	1.13	
1191.00	15.470	92.390	1178.05	-0.02	-2.63	134.43	1639707.47	14591031.34	40°10'35.658"N	105°00'09.140"W	1.50	
1222.00	16.390	91.070	1207.86	0.07	-2.89	142.94	1639715.97	14591031.09	40°10'35.655"N	105°00'09.031"W	3.19	
1254.00	17.270	90.980	1238.49	0.05	-3.05	152.20	1639725.23	14591030.92	40°10'35.654"N	105°00'08.911"W	2.75	
1286.00	18.630	91.250	1268.93	0.05	-3.24	162.06	1639735.09	14591030.73	40°10'35.652"N	105°00'08.784"W	4.26	
1318.00	19.200	91.250	1299.21	0.07	-3.47	172.43	1639745.46	14591030.51	40°10'35.650"N	105°00'08.651"W	1.78	
1350.00	19.070	89.840	1329.44	-0.03	-3.57	182.92	1639755.94	14591030.40	40°10'35.649"N	105°00'08.515"W	1.50	
1381.00	18.460	88.610	1358.79	-0.36	-3.44	192.89	1639765.91	14591030.54	40°10'35.650"N	105°00'08.387"W	2.35	
1413.00	18.280	87.210	1389.16	-0.93	-3.07	202.97	1639775.98	14591030.90	40°10'35.654"N	105°00'08.257"W	1.49	
1445.00	18.460	86.240	1419.53	-1.70	-2.49	213.03	1639786.04	14591031.48	40°10'35.659"N	105°00'08.128"W	1.11	
1476.00	18.590	88.080	1448.92	-2.38	-2.01	222.87	1639795.88	14591031.97	40°10'35.664"N	105°00'08.001"W	1.93	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 NEWBY STATE 38N-4HZ (589'FSL & 1305'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 38N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 38N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (197 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	18.460	89.400	1479.27	-2.81	-1.78	233.03	1639806.04	14591032.19	40°10'35.666"N	105°00'07.870"W	1.37	
1539.00	17.840	88.610	1508.72	-3.17	-1.62	242.69	1639815.69	14591032.36	40°10'35.668"N	105°00'07.745"W	2.15	
1571.00	18.020	87.910	1539.17	-3.66	-1.32	252.54	1639825.53	14591032.66	40°10'35.671"N	105°00'07.619"W	0.88	
1603.00	17.930	90.810	1569.61	-3.96	-1.21	262.41	1639835.40	14591032.77	40°10'35.672"N	105°00'07.491"W	2.81	
1635.00	17.970	91.510	1600.05	-3.96	-1.41	272.27	1639845.25	14591032.57	40°10'35.670"N	105°00'07.364"W	0.69	
1666.00	17.670	89.930	1629.56	-4.03	-1.53	281.75	1639854.73	14591032.45	40°10'35.669"N	105°00'07.242"W	1.84	
1698.00	17.360	89.230	1660.08	-4.29	-1.46	291.38	1639864.36	14591032.52	40°10'35.670"N	105°00'07.118"W	1.17	
1730.00	17.360	88.170	1690.62	-4.69	-1.24	300.93	1639873.90	14591032.73	40°10'35.672"N	105°00'06.995"W	0.99	
1762.00	17.400	87.650	1721.16	-5.23	-0.89	310.48	1639883.45	14591033.08	40°10'35.675"N	105°00'06.872"W	0.50	
1793.00	17.400	86.850	1750.74	-5.85	-0.45	319.74	1639892.71	14591033.52	40°10'35.680"N	105°00'06.753"W	0.77	
1825.00	17.450	88.350	1781.27	-6.44	-0.05	329.31	1639902.28	14591033.92	40°10'35.684"N	105°00'06.630"W	1.41	
1857.00	17.750	90.630	1811.78	-6.72	0.04	338.99	1639911.95	14591034.01	40°10'35.684"N	105°00'06.505"W	2.35	
1889.00	17.970	91.510	1842.23	-6.73	-0.14	348.80	1639921.75	14591033.82	40°10'35.683"N	105°00'06.378"W	1.09	
1920.00	17.800	91.780	1871.74	-6.64	-0.42	358.31	1639931.27	14591033.55	40°10'35.680"N	105°00'06.256"W	0.61	
1952.00	17.670	91.160	1902.22	-6.58	-0.67	368.06	1639941.01	14591033.30	40°10'35.677"N	105°00'06.130"W	0.72	
1984.00	17.490	90.810	1932.72	-6.61	-0.83	377.72	1639950.67	14591033.13	40°10'35.676"N	105°00'06.006"W	0.65	
2015.00	17.010	90.190	1962.33	-6.71	-0.91	386.92	1639959.86	14591033.05	40°10'35.675"N	105°00'05.887"W	1.66	
2047.00	16.880	90.020	1992.94	-6.88	-0.93	396.24	1639969.18	14591033.04	40°10'35.675"N	105°00'05.767"W	0.43	
2079.00	17.180	91.160	2023.53	-6.96	-1.03	405.61	1639978.54	14591032.94	40°10'35.674"N	105°00'05.647"W	1.40	
2111.00	17.800	91.690	2054.05	-6.91	-1.27	415.23	1639988.16	14591032.70	40°10'35.671"N	105°00'05.523"W	2.00	
2142.00	17.680	91.780	2083.58	-6.81	-1.56	424.67	1639997.59	14591032.41	40°10'35.669"N	105°00'05.401"W	0.40	
2174.00	17.970	90.720	2114.04	-6.79	-1.77	434.46	1640007.38	14591032.20	40°10'35.666"N	105°00'05.275"W	1.36	
2205.00	17.890	90.190	2143.54	-6.90	-1.84	444.00	1640016.92	14591032.12	40°10'35.666"N	105°00'05.152"W	0.59	
2237.00	17.750	90.110	2174.00	-7.07	-1.87	453.80	1640026.71	14591032.10	40°10'35.665"N	105°00'05.026"W	0.44	
2261.00	17.750	89.840	2196.86	-7.22	-1.87	461.11	1640034.02	14591032.10	40°10'35.666"N	105°00'04.932"W	0.34	LAST SURFACE MWD+IFR1 SURVEY
2397.00	17.520	86.450	2326.47	-9.36	-0.54	502.28	1640075.17	14591033.42	40°10'35.679"N	105°00'04.401"W	0.77	FIRST BHGE MWD+IFR1+SC SURVEY
2491.00	17.320	76.750	2416.18	-13.99	3.54	530.02	1640102.91	14591037.50	40°10'35.719"N	105°00'04.044"W	3.09	
2585.00	18.430	77.030	2505.64	-21.08	10.09	558.12	1640131.00	14591044.04	40°10'35.784"N	105°00'03.682"W	1.18	
2679.00	17.570	74.970	2595.04	-28.65	17.10	586.31	1640159.17	14591051.05	40°10'35.853"N	105°00'03.319"W	1.14	
2773.00	18.520	74.700	2684.42	-36.82	24.72	614.41	1640187.26	14591058.67	40°10'35.928"N	105°00'02.957"W	1.01	
2867.00	17.360	72.020	2773.85	-45.63	32.99	642.15	1640214.99	14591066.93	40°10'36.010"N	105°00'02.599"W	1.51	
2961.00	18.600	75.560	2863.26	-54.25	41.05	670.01	1640242.84	14591075.00	40°10'36.090"N	105°00'02.240"W	1.76	
3055.00	16.900	73.660	2952.78	-62.37	48.64	697.64	1640270.46	14591082.58	40°10'36.165"N	105°00'01.884"W	1.91	
3148.00	18.130	78.340	3041.47	-69.64	55.37	724.78	1640297.59	14591089.30	40°10'36.231"N	105°00'01.535"W	2.01	
3243.00	16.860	77.250	3132.08	-76.21	61.39	752.70	1640325.49	14591095.32	40°10'36.291"N	105°00'01.175"W	1.38	
3336.00	18.690	79.680	3220.63	-82.41	67.04	780.52	1640353.30	14591100.97	40°10'36.346"N	105°00'00.817"W	2.12	
3430.00	17.200	79.040	3310.06	-88.31	72.38	808.98	1640381.75	14591106.30	40°10'36.399"N	105°00'00.450"W	1.60	
3524.00	18.460	82.310	3399.54	-93.50	77.01	837.37	1640410.14	14591110.94	40°10'36.445"N	105°00'00.084"W	1.71	
3546.00†	18.134	82.028	3420.43	-94.57	77.96	844.22	1640416.98	14591111.88	40°10'36.454"N	104°59'59.996"W	1.54	ENTER LANDBOX (667'FSL & 461'FEL,SEC.33) 40.1767928 -104.9999989
3643.00	16.700	80.660	3512.98	-99.49	82.31	872.92	1640445.67	14591116.23	40°10'36.497"N	104°59'59.626"W	1.54	
3737.00	16.400	78.580	3603.09	-104.83	87.13	899.25	1640471.99	14591121.05	40°10'36.545"N	104°59'59.287"W	0.71	
3831.00	15.630	76.610	3693.44	-110.89	92.69	924.58	1640497.31	14591126.60	40°10'36.600"N	104°59'58.961"W	1.00	
3925.00	14.910	74.060	3784.12	-117.61	98.94	948.53	1640521.25	14591132.85	40°10'36.662"N	104°59'58.652"W	1.05	
4019.00	13.620	72.800	3875.22	-124.64	105.54	970.73	1640543.44	14591139.44	40°10'36.727"N	104°59'58.366"W	1.41	
4113.00	12.490	78.280	3966.79	-130.39	110.88	991.26	1640563.96	14591144.78	40°10'36.779"N	104°59'58.102"W	1.78	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 NEWBY STATE 38N-4HZ (589'FSL & 1305'FEL, SEC.33)
Area	COLORADO	Well	NEWBY STATE 38N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 38N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (197 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
4207.00	11.010	76.340	4058.82	-134.94	115.06	1009.93	1640582.63	14591148.96	40°10'36.821"N	104°59'57.861"W	1.63	
4301.00	10.030	72.590	4151.24	-139.83	119.63	1026.47	1640599.15	14591153.53	40°10'36.866"N	104°59'57.648"W	1.27	
4394.00	8.050	80.390	4243.09	-143.62	123.14	1040.62	1640613.30	14591157.04	40°10'36.901"N	104°59'57.466"W	2.50	
4488.00	7.420	78.150	4336.23	-146.21	125.49	1053.05	1640625.72	14591159.38	40°10'36.924"N	104°59'57.306"W	0.74	
4581.00	3.660	83.000	4428.78	-147.98	127.08	1061.87	1640634.55	14591160.98	40°10'36.940"N	104°59'57.192"W	4.07	
4675.00	3.070	78.640	4522.62	-148.95	127.94	1067.32	1640639.99	14591161.84	40°10'36.948"N	104°59'57.122"W	0.68	
4769.00	2.950	94.740	4616.49	-149.34	128.24	1072.20	1640644.87	14591162.13	40°10'36.951"N	104°59'57.059"W	0.91	
4864.00	0.250	132.470	4711.44	-149.05	127.90	1074.79	1640647.45	14591161.79	40°10'36.948"N	104°59'57.026"W	2.90	
4958.00	0.260	330.130	4805.44	-149.10	127.94	1074.83	1640647.50	14591161.84	40°10'36.948"N	104°59'57.025"W	0.54	
5052.00	0.370	313.010	4899.44	-149.48	128.34	1074.50	1640647.17	14591162.23	40°10'36.952"N	104°59'57.029"W	0.15	
5146.00	1.420	101.580	4993.43	-149.47	128.31	1075.42	1640648.09	14591162.20	40°10'36.952"N	104°59'57.017"W	1.86	
5240.00	0.720	323.810	5087.43	-149.73	128.55	1076.21	1640648.88	14591162.44	40°10'36.954"N	104°59'57.007"W	2.14	
5333.00	1.010	329.750	5180.42	-150.90	129.73	1075.46	1640648.12	14591163.62	40°10'36.966"N	104°59'57.017"W	0.33	
5427.00	1.010	325.990	5274.40	-152.28	131.13	1074.58	1640647.24	14591165.03	40°10'36.980"N	104°59'57.028"W	0.07	
5521.00	1.140	340.600	5368.38	-153.83	132.70	1073.80	1640646.47	14591166.59	40°10'36.995"N	104°59'57.038"W	0.32	
5615.00	0.900	242.050	5462.38	-154.35	133.24	1072.84	1640645.51	14591167.13	40°10'37.000"N	104°59'57.051"W	1.65	
5709.00	1.010	246.980	5556.36	-153.65	132.57	1071.42	1640644.09	14591166.46	40°10'36.994"N	104°59'57.069"W	0.15	
5804.00	0.750	283.990	5651.35	-153.45	132.39	1070.05	1640642.72	14591166.28	40°10'36.992"N	104°59'57.087"W	0.64	
5897.00	0.690	309.100	5744.34	-153.93	132.89	1069.03	1640641.70	14591166.78	40°10'36.997"N	104°59'57.100"W	0.34	
5991.00	1.200	339.670	5838.33	-155.19	134.17	1068.24	1640640.91	14591168.06	40°10'37.010"N	104°59'57.110"W	0.74	
6085.00	1.350	332.290	5932.31	-157.08	136.08	1067.39	1640640.06	14591169.97	40°10'37.028"N	104°59'57.121"W	0.24	
6180.00	1.630	335.970	6027.28	-159.28	138.30	1066.32	1640638.99	14591172.19	40°10'37.050"N	104°59'57.135"W	0.31	
6274.00	2.150	238.400	6121.24	-159.54	138.60	1064.27	1640636.94	14591172.49	40°10'37.053"N	104°59'57.161"W	3.05	
6367.00	1.670	250.820	6214.19	-158.13	137.24	1061.50	1640634.18	14591171.13	40°10'37.040"N	104°59'57.197"W	0.68	
6461.00	1.270	262.480	6308.16	-157.49	136.65	1059.18	1640631.85	14591170.54	40°10'37.034"N	104°59'57.227"W	0.53	
6555.00	1.160	279.330	6402.14	-157.47	136.67	1057.21	1640629.88	14591170.56	40°10'37.034"N	104°59'57.252"W	0.40	
6568.00†	1.590	219.870	6415.14	-157.35	136.55	1056.96	1640629.64	14591170.44	40°10'37.033"N	104°59'57.255"W	10.88	KOP
6648.00	0.890	181.380	6494.68	-149.60	128.82	1056.08	1640628.76	14591162.71	40°10'36.957"N	104°59'57.267"W	10.88	
6742.00	17.770	179.460	6585.88	-127.15	106.37	1056.02	1640628.70	14591140.27	40°10'36.735"N	104°59'57.267"W	8.40	
6836.00	22.100	178.120	6674.23	-95.14	74.34	1056.74	1640629.41	14591108.25	40°10'36.418"N	104°59'57.258"W	4.63	
6930.00	27.920	176.580	6759.38	-55.51	34.66	1058.63	1640631.30	14591068.59	40°10'36.026"N	104°59'57.234"W	6.23	
7025.00	38.570	179.700	6838.72	-3.58	-17.31	1060.12	1640632.79	14591016.64	40°10'35.513"N	104°59'57.215"W	11.35	
7118.00	41.700	182.930	6909.82	56.34	-77.21	1058.69	1640631.36	14590956.76	40°10'34.921"N	104°59'57.233"W	4.04	
7213.00	48.310	179.600	6976.97	123.46	-144.33	1057.32	1640629.99	14590889.68	40°10'34.258"N	104°59'57.251"W	7.38	
7307.00	53.970	183.450	7035.93	196.60	-217.44	1055.28	1640627.94	14590816.59	40°10'33.535"N	104°59'57.277"W	6.81	
7400.00	58.540	182.960	7087.58	273.86	-294.63	1050.96	1640623.62	14590739.43	40°10'32.772"N	104°59'57.333"W	4.93	
7494.00	65.960	181.260	7131.32	356.98	-377.70	1047.94	1640620.60	14590656.40	40°10'31.951"N	104°59'57.372"W	8.05	
7588.00	75.330	180.740	7162.44	445.57	-466.28	1046.41	1640619.07	14590567.86	40°10'31.076"N	104°59'57.391"W	9.98	
7682.00	86.920	181.730	7176.92	538.28	-558.97	1044.40	1640617.05	14590475.20	40°10'30.160"N	104°59'57.417"W	12.37	
7733.00†	89.427	181.953	7178.54	589.25	-609.91	1042.76	1640615.42	14590424.28	40°10'29.657"N	104°59'57.439"W	4.93	LANDING (21'FNL & 262'FEL, SEC.04) 40.1749046 -104.9992885
7776.00	91.540	182.140	7178.18	632.24	-652.88	1041.23	1640613.88	14590381.33	40°10'29.232"N	104°59'57.458"W	4.93	
7870.00	89.850	181.190	7177.04	726.22	-746.83	1038.49	1640611.15	14590287.42	40°10'28.304"N	104°59'57.494"W	2.06	
7964.00	90.340	180.580	7176.88	820.22	-840.82	1037.04	1640609.69	14590193.47	40°10'27.375"N	104°59'57.512"W	0.83	
8058.00	89.480	180.990	7177.03	914.22	-934.81	1035.75	1640608.40	14590099.51	40°10'26.446"N	104°59'57.529"W	1.01	
8073.00†	89.431	180.922	7177.17	929.22	-949.80	1035.50	1640608.15	14590084.52	40°10'26.298"N	104°59'57.532"W	0.56	EXIT RADIUS HEEL (361'FNL & 270'FEL, SEC.04) 40.1739716 -104.9993145

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 NEWBY STATE 38N-4HZ (589'FSL & 1305'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 38N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 38N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (197 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
8153.00	89.170	180.560	7178.15	1009.21	-1029.79	1034.47	1640607.11	14590004.57	40°10'25.507"N	104°59'57.546"W	0.56	
8246.00	89.290	180.600	7179.40	1102.20	-1122.78	1033.53	1640606.17	14589911.62	40°10'24.588"N	104°59'57.558"W	0.14	
8340.00	90.120	180.340	7179.88	1196.19	-1216.77	1032.76	1640605.40	14589817.66	40°10'23.660"N	104°59'57.568"W	0.93	
8434.00	87.970	181.570	7181.45	1290.17	-1310.74	1031.19	1640603.83	14589723.73	40°10'22.731"N	104°59'57.588"W	2.63	
8527.00	87.750	181.220	7184.92	1383.10	-1403.65	1028.93	1640601.56	14589630.86	40°10'21.813"N	104°59'57.617"W	0.44	
8621.00	87.910	181.350	7188.48	1477.03	-1497.56	1026.82	1640599.45	14589536.99	40°10'20.885"N	104°59'57.644"W	0.22	
8715.00	87.660	180.680	7192.12	1570.96	-1591.47	1025.16	1640597.79	14589443.12	40°10'19.957"N	104°59'57.666"W	0.76	
8809.00	89.170	180.650	7194.72	1664.92	-1685.43	1024.07	1640596.69	14589349.20	40°10'19.028"N	104°59'57.680"W	1.61	
8904.00	88.710	180.000	7196.47	1759.89	-1780.41	1023.53	1640596.15	14589254.25	40°10'18.090"N	104°59'57.687"W	0.84	
8998.00	89.820	181.950	7197.68	1853.88	-1874.38	1021.93	1640594.55	14589160.32	40°10'17.161"N	104°59'57.708"W	2.39	
9092.00	89.850	181.370	7197.95	1947.88	-1968.34	1019.21	1640591.83	14589066.40	40°10'16.233"N	104°59'57.743"W	0.62	
9186.00	89.970	181.060	7198.10	2041.88	-2062.32	1017.21	1640589.83	14588972.46	40°10'15.304"N	104°59'57.768"W	0.35	
9280.00	90.220	181.280	7197.94	2135.87	-2156.30	1015.29	1640587.91	14588878.51	40°10'14.375"N	104°59'57.793"W	0.35	
9374.00	90.000	180.470	7197.76	2229.87	-2250.29	1013.86	1640586.47	14588784.56	40°10'13.446"N	104°59'57.812"W	0.89	
9468.00	89.540	179.610	7198.14	2323.85	-2344.28	1013.79	1640586.40	14588690.60	40°10'12.518"N	104°59'57.813"W	1.04	
9562.00	88.890	179.160	7199.43	2417.80	-2438.27	1014.80	1640587.41	14588596.66	40°10'11.589"N	104°59'57.800"W	0.84	
9655.00	89.820	179.580	7200.47	2510.75	-2531.26	1015.82	1640588.43	14588503.71	40°10'10.670"N	104°59'57.787"W	1.10	
9749.00	90.990	181.280	7199.81	2604.74	-2625.25	1015.12	1640587.72	14588409.76	40°10'09.741"N	104°59'57.796"W	2.20	
9843.00	91.290	181.490	7197.94	2698.72	-2719.20	1012.85	1640585.44	14588315.84	40°10'08.813"N	104°59'57.825"W	0.39	
9937.00	91.970	181.210	7195.27	2792.68	-2813.14	1010.63	1640583.23	14588221.94	40°10'07.884"N	104°59'57.854"W	0.78	
10031.00	91.630	181.990	7192.31	2886.63	-2907.05	1008.01	1640580.60	14588128.06	40°10'06.956"N	104°59'57.887"W	0.90	
10125.00	89.910	183.500	7191.05	2980.57	-3000.93	1003.51	1640576.10	14588034.22	40°10'06.029"N	104°59'57.945"W	2.43	
10218.00	88.280	182.960	7192.52	3073.50	-3093.77	998.27	1640570.86	14587941.42	40°10'05.111"N	104°59'58.013"W	1.85	
10313.00	88.430	182.720	7195.25	3168.41	-3188.61	993.56	1640566.15	14587846.62	40°10'04.174"N	104°59'58.074"W	0.30	
10406.00	88.370	182.430	7197.84	3261.35	-3281.48	989.39	1640561.97	14587753.79	40°10'03.256"N	104°59'58.128"W	0.32	
10500.00	88.490	182.410	7200.42	3355.29	-3375.36	985.42	1640558.00	14587659.94	40°10'02.328"N	104°59'58.179"W	0.13	
10594.00	88.240	182.240	7203.10	3449.23	-3469.25	981.61	1640554.19	14587566.10	40°10'01.401"N	104°59'58.228"W	0.32	
10688.00	87.840	181.510	7206.31	3543.17	-3563.14	978.53	1640551.12	14587472.24	40°10'00.473"N	104°59'58.267"W	0.89	
10782.00	87.440	181.120	7210.19	3637.09	-3657.03	976.38	1640548.96	14587378.38	40°09'59.545"N	104°59'58.295"W	0.59	
10877.00	87.630	180.660	7214.27	3732.00	-3751.93	974.91	1640547.48	14587283.52	40°09'58.607"N	104°59'58.314"W	0.52	
10971.00	87.320	180.190	7218.41	3825.90	-3845.84	974.21	1640546.78	14587189.65	40°09'57.679"N	104°59'58.323"W	0.60	
11065.00	89.170	180.180	7221.29	3919.84	-3939.79	973.91	1640546.48	14587095.74	40°09'56.751"N	104°59'58.327"W	1.97	
11158.00	89.350	179.670	7222.49	4012.81	-4032.78	974.03	1640546.59	14587002.79	40°09'55.832"N	104°59'58.326"W	0.58	
11253.00	89.110	178.860	7223.77	4107.75	-4127.77	975.25	1640547.81	14586907.84	40°09'54.893"N	104°59'58.310"W	0.89	
11347.00	90.090	181.160	7224.43	4201.72	-4221.76	975.23	1640547.79	14586813.89	40°09'53.964"N	104°59'58.310"W	2.66	
11441.00	89.260	181.130	7224.96	4295.72	-4315.74	973.35	1640545.91	14586719.95	40°09'53.036"N	104°59'58.335"W	0.88	
11535.00	89.380	180.830	7226.07	4389.71	-4409.72	971.74	1640544.30	14586626.01	40°09'52.107"N	104°59'58.355"W	0.34	
11629.00	89.510	180.460	7226.98	4483.70	-4503.70	970.68	1640543.24	14586532.05	40°09'51.178"N	104°59'58.369"W	0.42	
11723.00	89.050	181.060	7228.17	4577.69	-4597.69	969.44	1640541.99	14586438.11	40°09'50.249"N	104°59'58.385"W	0.80	
11817.00	88.800	180.670	7229.93	4671.68	-4691.66	968.02	1640540.57	14586344.17	40°09'49.321"N	104°59'58.403"W	0.49	
11911.00	88.680	180.150	7232.00	4765.65	-4785.64	967.35	1640539.89	14586250.24	40°09'48.392"N	104°59'58.412"W	0.57	
12005.00	88.950	180.450	7233.94	4859.62	-4879.61	966.85	1640539.40	14586156.30	40°09'47.463"N	104°59'58.419"W	0.43	
12099.00	88.610	180.220	7235.94	4953.59	-4973.59	966.31	1640538.84	14586062.36	40°09'46.535"N	104°59'58.426"W	0.44	
12193.00	89.540	181.020	7237.46	5047.57	-5067.57	965.29	1640537.82	14585968.41	40°09'45.606"N	104°59'58.439"W	1.30	
12287.00	89.140	180.630	7238.54	5141.56	-5161.55	963.93	1640536.47	14585874.47	40°09'44.677"N	104°59'58.456"W	0.59	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 NEWBY STATE 38N-4HZ (589'FSL & 1305'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 38N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 38N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH DATA (197 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
12381.00	88.120	180.990	7240.79	5235.53	-5255.52	962.61	1640535.14	14585780.54	40°09'43.749"N	104°59'58.473"W	1.15	
12475.00	88.800	181.560	7243.32	5329.49	-5349.46	960.52	1640533.04	14585686.64	40°09'42.820"N	104°59'58.500"W	0.94	
12568.00	89.570	181.480	7244.64	5422.48	-5442.42	958.05	1640530.57	14585593.72	40°09'41.902"N	104°59'58.532"W	0.83	
12575.00†	89.540	181.484	7244.69	5429.48	-5449.41	957.87	1640530.39	14585586.73	40°09'41.833"N	104°59'58.535"W	0.43	ENTER RADIUS TOE (359'FSL & 286'FEL,SEC.04) 40.1616201 -104.9995929
12662.00	89.170	181.530	7245.67	5516.47	-5536.38	955.58	1640528.10	14585499.80	40°09'40.973"N	104°59'58.564"W	0.43	
12756.00	90.180	181.670	7246.21	5610.47	-5630.34	952.96	1640525.48	14585405.87	40°09'40.045"N	104°59'58.598"W	1.08	
12851.00	90.220	181.820	7245.87	5705.46	-5725.29	950.06	1640522.58	14585310.96	40°09'39.106"N	104°59'58.635"W	0.16	
12944.00	90.030	181.780	7245.67	5798.46	-5818.25	947.14	1640519.66	14585218.04	40°09'38.188"N	104°59'58.673"W	0.21	
13038.00	89.850	181.150	7245.77	5892.45	-5912.22	944.74	1640517.25	14585124.11	40°09'37.259"N	104°59'58.704"W	0.70	
13133.00	89.750	180.770	7246.10	5987.45	-6007.20	943.15	1640515.66	14585029.16	40°09'36.320"N	104°59'58.724"W	0.41	
13227.00	89.820	180.630	7246.45	6081.45	-6101.19	942.00	1640514.51	14584935.21	40°09'35.392"N	104°59'58.739"W	0.17	
13321.00	89.510	180.330	7247.00	6175.44	-6195.19	941.21	1640513.72	14584841.25	40°09'34.463"N	104°59'58.750"W	0.46	
13415.00	89.350	180.090	7247.94	6269.42	-6289.18	940.87	1640513.37	14584747.29	40°09'33.534"N	104°59'58.754"W	0.31	
13509.00	89.350	179.640	7249.00	6363.40	-6383.18	941.09	1640513.59	14584653.34	40°09'32.605"N	104°59'58.751"W	0.48	
13603.00	89.170	179.440	7250.22	6457.35	-6477.17	941.84	1640514.34	14584559.39	40°09'31.676"N	104°59'58.742"W	0.29	
13725.00	89.200	179.900	7251.95	6579.30	-6599.15	942.55	1640515.04	14584437.45	40°09'30.471"N	104°59'58.733"W	0.38	LAST BHGE MWD+IFR1+SC SURVEY
13777.00	89.200	179.900	7252.68	6631.28	-6651.15	942.64	1640515.13	14584385.48	40°09'29.957"N	104°59'58.731"W	0.00	PTB (843'FNL & 300'FEL,SEC.09) 40.1583214 -104.9996476

TARGETS								
Name	TVD (ft)	North (ft)	East (ft)	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.04-T2N-R68W	2.00	-1.42	-195.07	1639378.11	14591032.57	40°10'35.670"N	105°00'13.385"W	polygon
SEC.33-T3N-R68W	2.00	-1.42	-195.07	1639378.11	14591032.57	40°10'35.670"N	105°00'13.385"W	polygon
NEWBY STATE 38N-4HZ HEEL REV-1(54'FNL & 264'FEL,SEC.04)	7183.00	-633.86	1040.94	1640613.60	14590400.34	40°10'29.420"N	104°59'57.462"W	point
NEWBY STATE 38N-4HZ BHL REV-1(844'FNL & 371'FEL,SEC.09)	7215.00	-6651.65	872.37	1640444.89	14584384.97	40°09'29.952"N	104°59'59.636"W	point
NEWBY STATE 38N-4HZ BHL REV-2(844'FNL & 321'FEL,SEC.09)	7215.00	-6651.65	922.37	1640494.87	14584384.97	40°09'29.952"N	104°59'58.992"W	point
NEWBY STATE 38N-4HZ LANDBOX	7215.00	0.00	0.00	1639573.10	14591033.98	40°10'35.684"N	105°00'10.872"W	polygon
NEWBY STATE 38N-4HZ RADIUS 1	7215.00	-577.67	1305.25	1640877.80	14590456.50	40°10'29.975"N	104°59'54.057"W	polygon
NEWBY STATE 38N-4HZ RADIUS 2	7215.00	-5799.87	1252.21	1640824.60	14585236.40	40°09'38.369"N	104°59'54.744"W	polygon

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 NEWBY STATE 38N-4HZ (589'FSL & 1305'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 38N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 38N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH COMPOSITION - Ref Wellbore: NEWBY STATE 38N-4HZ AWB      Ref Wellpath: NEWBY STATE 38N-4HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.00	2261.00	Custom APC_ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC_ISCWSA Rev-2 MWD+IFR1 <145 - 2261>	NEWBY STATE 38N-4HZ AWB
2261.00	13725.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHGE Custom APC_ISCWSA Rev-2 MWD+IFR1+SC <2397 - 13725>	NEWBY STATE 38N-4HZ AWB
13725.00	13777.00	Blind Drilling (std)	Projection to bit	NEWBY STATE 38N-4HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#34 NEWBY STATE 38N-4HZ (589'FSL & 1305'FEL,SEC.33)
Area	COLORADO	Well	NEWBY STATE 38N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	NEWBY STATE 38N-4HZ AWB
Facility	SEC.33-T3N-R68W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
145.00	0.660	94.760	145.00	FIRST SURFACE MWD+IFR1 SURVEY
2261.00	17.750	89.840	2196.86	LAST SURFACE MWD+IFR1 SURVEY
2397.00	17.520	86.450	2326.47	FIRST BHGE MWD+IFR1+SC SURVEY
3546.00	18.134	82.028	3420.43	ENTER LANDBOX (667'FSL & 461'FEL,SEC.33) 40.1767928 -104.9999989
6568.00	1.590	219.870	6415.14	KOP
7733.00	89.427	181.953	7178.54	LANDING (21'FNL & 262'FEL,SEC.04) 40.1749046 -104.9992885
8073.00	89.431	180.922	7177.17	EXIT RADIUS HEEL (361'FNL & 270'FEL,SEC.04) 40.1739716 -104.9993145
12575.00	89.540	181.484	7244.69	ENTER RADIUS TOE (359'FSL & 286'FEL,SEC.04) 40.1616201 -104.9995929
13725.00	89.200	179.900	7251.95	LAST BHGE MWD+IFR1+SC SURVEY
13777.00	89.200	179.900	7252.68	PTB (843'FNL & 300'FEL,SEC.09) 40.1583214 -104.9996476