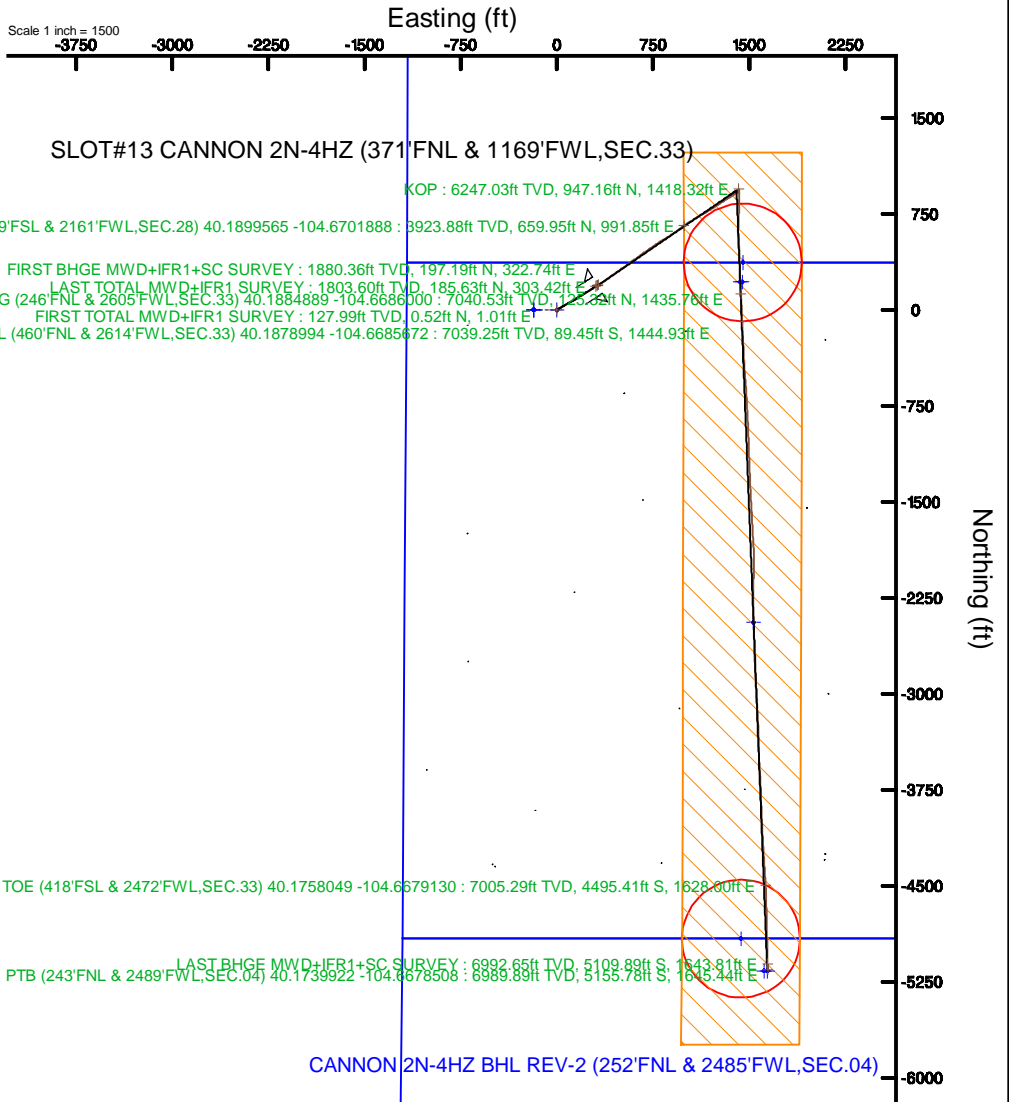
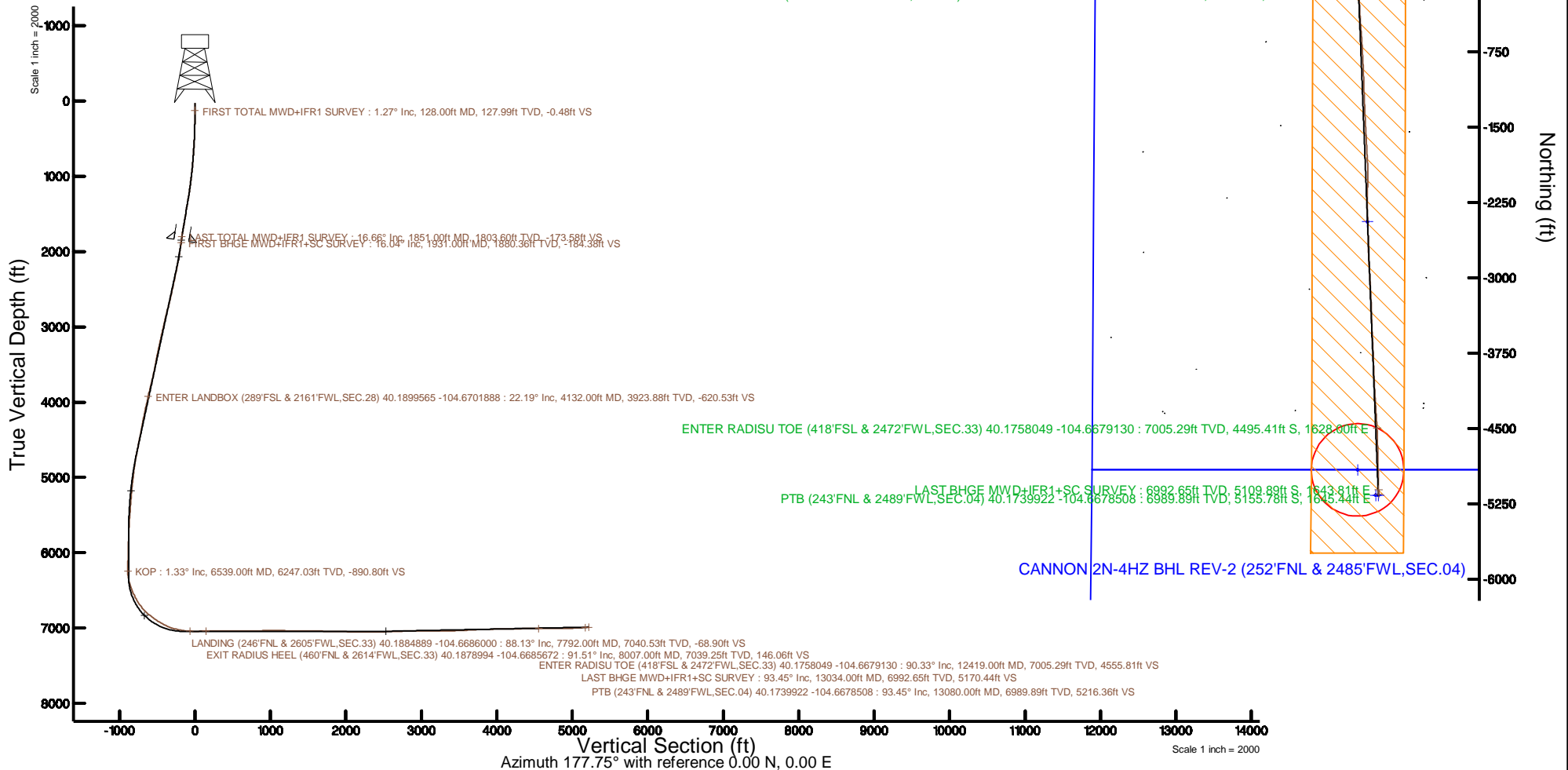


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#13 CANNON 2N-4HZ (371'FNL & 1169'FWL, SEC.33)
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: CANNON 2N-4HZ
 Facility: SEC.33-T3N-R65W Wellbore: CANNON 2N-4HZ PWB

Plot reference wellpath is CANNON 2N-4HZ PWP Rev-A.0	Grid System: NAD83 / UTM Zone 13 North, US feet
True vertical depths are referenced to PD 564 (26') (RT)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to PD 564 (26') (RT)	North Reference: True north
PD 564 (26') (RT) to Mean Sea Level: 4888 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#13 CANNON 2N-4HZ (371'FNL & 1169'FWL, SEC.33)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2017-08-15
	Database: WA_DEN_Anadarko_Defn



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 CANNON 2N-4HZ (371'FNL & 1169'FWL,SEC.33)
Area	COLORADO	Well	CANNON 2N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CANNON 2N-4HZ AWB
Facility	SEC.33-T3N-R65W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999610	Report Generated	8/15/2017 at 2:44 PM
Convergence at slot	0.22° East	Database/Source file	WA_DEN_Anadarko_Defn/CANNON_2N-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	1586.60	-1966.62	1731535.22	14595413.20	40°11'17.322"N	104°40'25.460"W
Facility Reference Pt			1733507.01	14593834.61	40°11'01.644"N	104°40'00.120"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	PD 564 (26') (RT) to Facility Vertical Datum	4888.00ft
Horizontal Reference Pt	Slot	PD 564 (26') (RT) to Mean Sea Level	4888.00ft
Vertical Reference Pt	PD 564 (26') (RT)	PD 564 (26') (RT) to Mud Line at Slot (SLOT#13 CANNON 2N-4HZ (371'FNL & 1169'FWL,SEC.33))	4888.00ft
MD Reference Pt	PD 564 (26') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	177.75°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 CANNON 2N-4HZ (371'FNL & 1169'FWL,SEC.33)
Area	COLORADO	Well	CANNON 2N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CANNON 2N-4HZ AWB
Facility	SEC.33-T3N-R65W		

WELLPATH DATA (185 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	62.810	0.00	0.00	0.00	0.00	1731535.22	14595413.20	40°11'17.322"N	104°40'25.460"W	0.00	
26.00	0.000	62.810	26.00	0.00	0.00	0.00	1731535.22	14595413.20	40°11'17.322"N	104°40'25.460"W	0.00	
128.00	1.270	62.810	127.99	-0.48	0.52	1.01	1731536.22	14595413.72	40°11'17.327"N	104°40'25.447"W	1.25	FIRST TOTAL MWD+IFR1 SURVEY
160.00	1.490	65.270	159.98	-0.79	0.85	1.70	1731536.92	14595414.06	40°11'17.330"N	104°40'25.438"W	0.71	
191.00	1.320	59.560	190.97	-1.11	1.20	2.37	1731537.59	14595414.41	40°11'17.334"N	104°40'25.429"W	0.71	
223.00	1.410	57.800	222.96	-1.48	1.60	3.02	1731538.24	14595414.81	40°11'17.338"N	104°40'25.421"W	0.31	
255.00	2.110	55.160	254.95	-1.99	2.15	3.84	1731539.05	14595415.36	40°11'17.343"N	104°40'25.411"W	2.20	
287.00	2.200	59.120	286.93	-2.60	2.80	4.85	1731540.06	14595416.01	40°11'17.350"N	104°40'25.397"W	0.54	
318.00	2.460	58.240	317.90	-3.22	3.45	5.93	1731541.13	14595416.67	40°11'17.356"N	104°40'25.384"W	0.85	
350.00	2.810	51.820	349.87	-4.02	4.30	7.13	1731542.33	14595417.52	40°11'17.364"N	104°40'25.368"W	1.43	
382.00	3.380	57.450	381.82	-4.95	5.29	8.54	1731543.74	14595418.52	40°11'17.374"N	104°40'25.350"W	2.02	
413.00	3.870	55.340	412.76	-5.97	6.38	10.17	1731545.36	14595419.61	40°11'17.385"N	104°40'25.329"W	1.64	
445.00	3.870	55.250	444.68	-7.13	7.61	11.95	1731547.13	14595420.85	40°11'17.397"N	104°40'25.306"W	0.02	
477.00	4.260	54.720	476.60	-8.36	8.91	13.80	1731548.99	14595422.16	40°11'17.410"N	104°40'25.282"W	1.22	
509.00	4.750	54.280	508.51	-9.74	10.37	15.85	1731551.03	14595423.62	40°11'17.424"N	104°40'25.256"W	1.54	
541.00	5.450	54.990	540.38	-11.29	12.01	18.17	1731553.34	14595425.28	40°11'17.441"N	104°40'25.226"W	2.20	
571.00	5.980	59.200	570.23	-12.81	13.63	20.68	1731555.84	14595426.90	40°11'17.457"N	104°40'25.194"W	2.25	
603.00	6.680	59.380	602.03	-14.49	15.43	23.71	1731558.87	14595428.71	40°11'17.475"N	104°40'25.154"W	2.19	
635.00	7.470	56.740	633.79	-16.45	17.52	27.05	1731562.20	14595430.81	40°11'17.495"N	104°40'25.111"W	2.67	
667.00	7.820	56.220	665.51	-18.66	19.87	30.60	1731565.74	14595433.18	40°11'17.518"N	104°40'25.066"W	1.11	
698.00	8.530	57.890	696.19	-20.91	22.27	34.30	1731569.43	14595435.58	40°11'17.542"N	104°40'25.018"W	2.41	
730.00	8.920	59.820	727.82	-23.25	24.78	38.46	1731573.57	14595438.11	40°11'17.567"N	104°40'24.964"W	1.52	
762.00	9.670	59.560	759.40	-25.68	27.39	42.92	1731578.02	14595440.73	40°11'17.593"N	104°40'24.907"W	2.35	
793.00	10.280	61.310	789.93	-28.14	30.03	47.59	1731582.68	14595443.39	40°11'17.619"N	104°40'24.847"W	2.20	
825.00	10.940	62.020	821.38	-30.73	32.83	52.78	1731587.86	14595446.21	40°11'17.646"N	104°40'24.780"W	2.10	
857.00	11.290	62.020	852.78	-33.41	35.72	58.22	1731593.29	14595449.12	40°11'17.675"N	104°40'24.710"W	1.09	
888.00	11.690	62.280	883.16	-36.08	38.61	63.68	1731598.74	14595452.02	40°11'17.704"N	104°40'24.639"W	1.30	
920.00	12.350	61.490	914.46	-38.99	41.75	69.56	1731604.60	14595455.19	40°11'17.735"N	104°40'24.564"W	2.13	
951.00	13.230	60.520	944.69	-42.08	45.08	75.56	1731610.59	14595458.54	40°11'17.767"N	104°40'24.486"W	2.92	
983.00	13.710	59.470	975.81	-45.55	48.81	82.02	1731617.03	14595462.29	40°11'17.804"N	104°40'24.403"W	1.68	
1015.00	14.590	59.470	1006.84	-49.26	52.78	88.76	1731623.75	14595466.28	40°11'17.844"N	104°40'24.316"W	2.75	
1046.00	15.290	59.290	1036.79	-53.06	56.85	95.63	1731630.61	14595470.38	40°11'17.884"N	104°40'24.228"W	2.26	
1078.00	15.600	59.730	1067.64	-57.09	61.17	102.98	1731637.93	14595474.73	40°11'17.927"N	104°40'24.133"W	1.04	
1109.00	15.600	60.960	1097.49	-60.92	65.30	110.22	1731645.16	14595478.88	40°11'17.967"N	104°40'24.040"W	1.07	
1141.00	16.350	62.100	1128.26	-64.81	69.49	117.96	1731652.88	14595483.10	40°11'18.009"N	104°40'23.940"W	2.54	
1173.00	16.610	61.670	1158.94	-68.77	73.77	125.97	1731660.87	14595487.40	40°11'18.051"N	104°40'23.837"W	0.90	
1204.00	17.490	60.000	1188.58	-72.89	78.20	133.90	1731668.78	14595491.86	40°11'18.095"N	104°40'23.735"W	3.25	
1236.00	17.840	59.640	1219.07	-77.44	83.09	142.30	1731677.16	14595496.77	40°11'18.143"N	104°40'23.626"W	1.15	
1268.00	17.970	57.010	1249.52	-82.27	88.25	150.67	1731685.51	14595501.97	40°11'18.194"N	104°40'23.519"W	2.56	
1300.00	18.060	55.860	1279.95	-87.42	93.72	158.91	1731693.73	14595507.47	40°11'18.248"N	104°40'23.412"W	1.15	
1331.00	18.410	56.920	1309.40	-92.47	99.09	166.99	1731701.78	14595512.86	40°11'18.301"N	104°40'23.308"W	1.56	
1363.00	18.500	57.010	1339.75	-97.65	104.61	175.49	1731710.25	14595518.42	40°11'18.356"N	104°40'23.199"W	0.30	
1394.00	18.330	59.730	1369.16	-102.45	109.75	183.82	1731718.57	14595523.58	40°11'18.407"N	104°40'23.091"W	2.83	
1426.00	18.330	60.080	1399.54	-107.16	114.80	192.53	1731727.25	14595528.66	40°11'18.456"N	104°40'22.979"W	0.34	
1521.00	19.250	57.530	1489.48	-121.98	130.65	218.69	1731753.34	14595544.60	40°11'18.613"N	104°40'22.642"W	1.30	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 CANNON 2N-4HZ (371'FNL & 1169'FWL,SEC.33)
Area	COLORADO	Well	CANNON 2N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CANNON 2N-4HZ AWP
Facility	SEC.33-T3N-R65W		

WELLPATH DATA (185 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
1553.00	19.250	56.480	1519.69	-127.37	136.40	227.54	1731762.17	14595550.38	40°11'18.670"N	104°40'22.528"W	1.08	
1585.00	18.240	58.500	1549.99	-132.56	141.93	236.20	1731770.81	14595555.94	40°11'18.725"N	104°40'22.416"W	3.75	
1616.00	17.890	59.820	1579.46	-137.16	146.86	244.46	1731779.04	14595560.90	40°11'18.773"N	104°40'22.310"W	1.74	
1710.00	18.150	54.990	1668.86	-151.84	162.52	268.93	1731803.45	14595576.64	40°11'18.928"N	104°40'21.995"W	1.61	
1742.00	17.530	54.370	1699.32	-157.19	168.18	276.93	1731811.42	14595582.33	40°11'18.984"N	104°40'21.892"W	2.03	
1774.00	16.920	55.950	1729.88	-162.30	173.60	284.71	1731819.18	14595587.77	40°11'19.037"N	104°40'21.792"W	2.40	
1806.00	16.700	56.920	1760.52	-167.11	178.72	292.42	1731826.86	14595592.92	40°11'19.088"N	104°40'21.692"W	1.11	
1837.00	16.880	58.240	1790.20	-171.61	183.52	299.98	1731834.40	14595597.74	40°11'19.135"N	104°40'21.595"W	1.36	
1851.00	16.660	58.680	1803.60	-173.58	185.63	303.42	1731837.84	14595599.87	40°11'19.156"N	104°40'21.550"W	1.81	LAST TOTAL MWD+IFR1 SURVEY
1931.00	16.040	59.550	1880.36	-184.38	197.19	322.74	1731857.11	14595611.50	40°11'19.271"N	104°40'21.301"W	0.83	FIRST BHGE MWD+IFR1+SC SURVEY
2020.00	17.400	60.020	1965.60	-196.38	210.07	344.87	1731879.18	14595624.45	40°11'19.398"N	104°40'21.016"W	1.54	
2110.00	18.630	57.000	2051.19	-210.00	224.63	368.58	1731902.83	14595639.09	40°11'19.542"N	104°40'20.711"W	1.72	
2199.00	18.820	51.050	2135.48	-225.85	241.40	391.67	1731925.85	14595655.94	40°11'19.707"N	104°40'20.413"W	2.16	
2288.00	18.360	54.420	2219.84	-242.13	258.58	414.24	1731948.34	14595673.19	40°11'19.877"N	104°40'20.122"W	1.31	
2378.00	20.160	54.820	2304.80	-258.35	275.76	438.44	1731972.48	14595690.46	40°11'20.047"N	104°40'19.811"W	2.01	
2468.00	21.020	55.380	2389.05	-275.42	293.87	464.40	1731998.36	14595708.65	40°11'20.226"N	104°40'19.476"W	0.98	
2557.00	22.120	53.060	2471.82	-293.51	313.01	490.93	1732024.81	14595727.88	40°11'20.415"N	104°40'19.134"W	1.56	
2647.00	22.570	57.150	2555.07	-311.95	332.56	518.99	1732052.78	14595747.53	40°11'20.608"N	104°40'18.773"W	1.80	
2737.00	23.590	53.100	2637.87	-330.98	352.74	547.90	1732081.61	14595767.81	40°11'20.808"N	104°40'18.400"W	2.10	
2826.00	23.700	53.350	2719.40	-351.21	374.11	576.49	1732110.11	14595789.28	40°11'21.019"N	104°40'18.032"W	0.17	
2916.00	24.510	54.450	2801.55	-371.68	395.76	606.20	1732139.72	14595811.03	40°11'21.233"N	104°40'17.649"W	1.03	
3005.00	23.580	54.670	2882.82	-391.53	416.79	635.74	1732169.18	14595832.16	40°11'21.441"N	104°40'17.268"W	1.05	
3095.00	22.570	54.220	2965.62	-410.90	437.30	664.44	1732197.79	14595852.77	40°11'21.643"N	104°40'16.899"W	1.14	
3184.00	23.110	54.470	3047.64	-429.92	457.44	692.51	1732225.77	14595873.00	40°11'21.842"N	104°40'16.537"W	0.62	
3274.00	22.250	56.940	3130.69	-448.34	477.00	721.16	1732254.34	14595892.65	40°11'22.036"N	104°40'16.168"W	1.43	
3363.00	22.420	54.660	3213.01	-466.24	496.01	749.13	1732282.23	14595911.76	40°11'22.223"N	104°40'15.807"W	0.99	
3453.00	22.390	55.710	3296.22	-484.70	515.59	777.29	1732310.31	14595931.44	40°11'22.417"N	104°40'15.444"W	0.45	
3543.00	21.150	57.330	3379.80	-502.02	534.01	805.12	1732338.06	14595949.96	40°11'22.599"N	104°40'15.086"W	1.53	
3632.00	21.120	59.950	3462.81	-517.63	550.71	832.52	1732365.39	14595966.75	40°11'22.764"N	104°40'14.733"W	1.06	
3722.00	22.640	58.530	3546.33	-533.65	567.87	861.33	1732394.12	14595984.01	40°11'22.934"N	104°40'14.361"W	1.79	
3811.00	22.700	56.300	3628.45	-550.97	586.34	890.23	1732422.94	14596002.58	40°11'23.116"N	104°40'13.989"W	0.97	
3901.00	22.510	54.070	3711.54	-569.59	606.09	918.63	1732451.25	14596022.42	40°11'23.311"N	104°40'13.623"W	0.98	
3990.00	24.320	54.480	3793.21	-589.09	626.74	947.34	1732479.88	14596043.16	40°11'23.515"N	104°40'13.253"W	2.04	
4080.00	22.520	52.090	3875.79	-609.31	648.10	976.03	1732508.48	14596064.62	40°11'23.726"N	104°40'12.884"W	2.26	
4132.00†	22.188	54.277	3923.88	-620.53	659.95	991.85	1732524.25	14596076.53	40°11'23.843"N	104°40'12.680"W	1.72	ENTER LANDBOX (289'FSL & 2161'FWL,SEC.28) 40.1899565 -104.6701888
4169.00	21.970	55.870	3958.17	-628.04	667.91	1003.25	1732535.62	14596084.53	40°11'23.922"N	104°40'12.533"W	1.72	
4259.00	24.530	58.020	4040.86	-646.20	687.25	1033.04	1732565.33	14596103.97	40°11'24.113"N	104°40'12.149"W	3.00	
4349.00	23.040	58.250	4123.21	-664.14	706.42	1063.87	1732596.07	14596123.24	40°11'24.303"N	104°40'11.752"W	1.66	
4438.00	20.940	57.160	4205.73	-680.82	724.21	1092.04	1732624.17	14596141.13	40°11'24.478"N	104°40'11.389"W	2.40	
4528.00	22.410	61.660	4289.37	-696.55	741.08	1120.66	1732652.71	14596158.09	40°11'24.645"N	104°40'11.020"W	2.46	
4617.00	23.680	61.310	4371.27	-711.97	757.71	1151.27	1732683.25	14596174.83	40°11'24.809"N	104°40'10.625"W	1.44	
4707.00	23.300	59.260	4453.81	-728.51	775.48	1182.42	1732714.32	14596192.72	40°11'24.985"N	104°40'10.224"W	1.00	
4820.00	21.660	57.550	4558.22	-749.66	798.10	1219.23	1732751.04	14596215.46	40°11'25.209"N	104°40'09.750"W	1.56	
4910.00	20.830	57.460	4642.10	-766.09	815.62	1246.74	1732778.47	14596233.07	40°11'25.382"N	104°40'09.395"W	0.92	
4999.00	18.990	56.380	4725.78	-781.61	832.15	1272.14	1732803.80	14596249.69	40°11'25.545"N	104°40'09.068"W	2.11	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 CANNON 2N-4HZ (371'FNL & 1169'FWL,SEC.33)
Area	COLORADO	Well	CANNON 2N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CANNON 2N-4HZ AWP
Facility	SEC.33-T3N-R65W		

WELLPATH DATA (185 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
5089.00	16.930	56.350	4811.39	-796.06	847.52	1295.24	1732826.84	14596265.14	40°11'25.697"N	104°40'08.770"W	2.29	
5179.00	15.150	56.680	4897.88	-808.96	861.24	1315.98	1732847.51	14596278.93	40°11'25.832"N	104°40'08.503"W	1.98	
5268.00	13.020	58.810	4984.20	-819.82	872.82	1334.28	1732865.76	14596290.58	40°11'25.947"N	104°40'08.267"W	2.46	
5358.00	11.670	59.070	5072.12	-829.09	882.75	1350.76	1732882.20	14596300.56	40°11'26.045"N	104°40'08.055"W	1.50	
5447.00	10.450	58.650	5159.47	-837.34	891.58	1365.37	1732896.78	14596309.44	40°11'26.132"N	104°40'07.866"W	1.37	
5536.00	9.320	56.640	5247.14	-844.99	899.74	1378.29	1732909.65	14596317.64	40°11'26.213"N	104°40'07.700"W	1.33	
5626.00	8.300	53.950	5336.08	-852.37	907.57	1389.63	1732920.96	14596325.51	40°11'26.290"N	104°40'07.554"W	1.22	
5716.00	6.900	49.130	5425.29	-859.35	914.93	1398.97	1732930.27	14596332.91	40°11'26.363"N	104°40'07.434"W	1.71	
5805.00	5.820	45.090	5513.74	-865.75	921.62	1406.21	1732937.48	14596339.61	40°11'26.429"N	104°40'07.340"W	1.31	
5895.00	3.560	18.340	5603.44	-871.46	927.49	1410.32	1732941.57	14596345.50	40°11'26.487"N	104°40'07.287"W	3.43	
5984.00	3.020	18.100	5692.30	-876.24	932.34	1411.92	1732943.15	14596350.36	40°11'26.535"N	104°40'07.267"W	0.61	
6074.00	2.180	22.310	5782.20	-880.02	936.18	1413.30	1732944.52	14596354.20	40°11'26.573"N	104°40'07.249"W	0.96	
6164.00	1.570	6.790	5872.16	-882.80	938.99	1414.10	1732945.31	14596357.01	40°11'26.601"N	104°40'07.239"W	0.88	
6253.00	1.420	11.780	5961.12	-885.07	941.28	1414.47	1732945.67	14596359.30	40°11'26.623"N	104°40'07.234"W	0.22	
6343.00	1.410	23.650	6051.10	-887.15	943.39	1415.14	1732946.33	14596361.41	40°11'26.644"N	104°40'07.225"W	0.33	
6432.00	1.630	38.280	6140.07	-889.10	945.38	1416.36	1732947.55	14596363.41	40°11'26.664"N	104°40'07.209"W	0.50	
6522.00	1.410	48.830	6230.04	-890.77	947.12	1417.99	1732949.17	14596365.14	40°11'26.681"N	104°40'07.188"W	0.39	
6539.00†	1.326	117.443	6247.03	-890.80	947.16	1418.32	1732949.50	14596365.19	40°11'26.681"N	104°40'07.184"W	9.08	KOP
6612.00	7.410	167.020	6319.80	-885.75	942.18	1420.13	1732951.32	14596360.22	40°11'26.632"N	104°40'07.161"W	9.08	
6701.00	16.630	179.030	6406.76	-867.34	923.81	1421.64	1732952.90	14596341.86	40°11'26.451"N	104°40'07.141"W	10.68	
6791.00	21.980	179.150	6491.67	-837.60	894.07	1422.11	1732953.48	14596312.14	40°11'26.157"N	104°40'07.135"W	5.94	
6880.00	26.690	176.280	6572.75	-800.95	857.45	1423.65	1732955.15	14596275.54	40°11'25.795"N	104°40'07.116"W	5.45	
6970.00	31.720	182.420	6651.30	-757.13	813.61	1423.96	1732955.63	14596231.71	40°11'25.362"N	104°40'07.112"W	6.50	
7059.00	37.970	184.530	6724.31	-706.57	762.89	1420.81	1732952.66	14596181.00	40°11'24.860"N	104°40'07.152"W	7.15	
7149.00	47.820	182.210	6790.16	-645.67	701.81	1417.33	1732949.41	14596119.93	40°11'24.257"N	104°40'07.197"W	11.08	
7238.00	52.680	182.350	6847.06	-577.48	633.46	1414.60	1732946.93	14596051.60	40°11'23.581"N	104°40'07.232"W	5.46	
7328.00	56.290	176.330	6899.36	-504.32	560.27	1415.53	1732948.13	14595978.45	40°11'22.858"N	104°40'07.220"W	6.76	
7417.00	61.420	176.500	6945.38	-428.19	484.28	1420.29	1732953.17	14595902.50	40°11'22.107"N	104°40'07.159"W	5.77	
7507.00	67.520	178.100	6984.15	-347.03	403.20	1424.09	1732957.26	14595821.46	40°11'21.306"N	104°40'07.110"W	6.96	
7596.00	77.630	178.090	7010.77	-262.22	318.44	1426.91	1732960.39	14595736.75	40°11'20.468"N	104°40'07.074"W	11.36	
7686.00	78.620	177.650	7029.29	-174.15	230.43	1430.18	1732963.98	14595648.79	40°11'19.599"N	104°40'07.032"W	1.20	
7775.00	87.660	176.450	7039.91	-85.89	142.27	1434.73	1732968.86	14595560.68	40°11'18.728"N	104°40'06.973"W	10.24	
7792.00†	88.130	176.630	7040.53	-68.90	125.32	1435.76	1732969.94	14595543.74	40°11'18.560"N	104°40'06.960"W	2.96	LANDING (246'FNL & 2605'FWL,SEC.33) 40.1884889 -104.6686000
7865.00	90.150	177.400	7041.63	4.08	52.43	1439.56	1732974.01	14595470.89	40°11'17.840"N	104°40'06.911"W	2.96	
7954.00	91.260	178.130	7040.53	93.07	-36.50	1443.03	1732977.81	14595382.02	40°11'16.961"N	104°40'06.867"W	1.49	
8007.00†	91.513	177.759	7039.25	146.06	-89.45	1444.93	1732979.90	14595329.10	40°11'16.438"N	104°40'06.842"W	0.85	EXIT RADIUS HEEL (460'FNL & 2614'FWL,SEC.33) 40.1878994 -104.6685672
8044.00	91.690	177.500	7038.22	183.04	-126.40	1446.46	1732981.57	14595292.16	40°11'16.072"N	104°40'06.822"W	0.85	
8134.00	90.340	176.840	7036.62	273.02	-216.27	1450.90	1732986.34	14595202.34	40°11'15.184"N	104°40'06.765"W	1.67	
8223.00	91.230	177.230	7035.40	362.00	-305.15	1455.50	1732991.27	14595113.52	40°11'14.306"N	104°40'06.706"W	1.09	
8313.00	89.110	177.150	7035.13	451.99	-395.03	1459.92	1732996.01	14595023.69	40°11'13.418"N	104°40'06.649"W	2.36	
8402.00	89.480	175.840	7036.23	540.96	-483.86	1465.36	1733001.77	14594934.92	40°11'12.540"N	104°40'06.579"W	1.53	
8492.00	90.250	174.940	7036.44	630.88	-573.56	1472.59	1733009.33	14594845.27	40°11'11.654"N	104°40'06.486"W	1.32	
8581.00	91.110	177.040	7035.39	719.83	-662.33	1478.81	1733015.88	14594756.56	40°11'10.776"N	104°40'06.406"W	2.55	
8671.00	89.570	177.330	7034.85	809.82	-752.22	1483.23	1733020.63	14594666.73	40°11'09.888"N	104°40'06.349"W	1.74	
8761.00	91.170	176.650	7034.27	899.81	-842.09	1487.96	1733025.68	14594576.91	40°11'09.000"N	104°40'06.288"W	1.93	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 CANNON 2N-4HZ (371'FNL & 1169'FWL,SEC.33)
Area	COLORADO	Well	CANNON 2N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CANNON 2N-4HZ AWB
Facility	SEC.33-T3N-R65W		

WELLPATH DATA (185 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
8850.00	91.390	178.190	7032.28	988.78	-930.98	1491.96	1733030.01	14594488.07	40°11'08.122"N	104°40'06.237"W	1.75	
8940.00	89.630	177.810	7031.48	1078.77	-1020.91	1495.11	1733033.48	14594398.18	40°11'07.233"N	104°40'06.196"W	2.00	
9029.00	88.030	178.110	7033.30	1167.75	-1109.84	1498.27	1733036.97	14594309.31	40°11'06.354"N	104°40'06.156"W	1.83	
9119.00	88.310	178.020	7036.17	1257.70	-1199.74	1501.31	1733040.34	14594219.45	40°11'05.466"N	104°40'06.116"W	0.33	
9209.00	88.830	177.410	7038.42	1347.68	-1289.64	1504.90	1733044.25	14594129.60	40°11'04.577"N	104°40'06.070"W	0.89	
9298.00	89.170	177.350	7039.97	1436.66	-1378.53	1508.96	1733048.65	14594040.76	40°11'03.699"N	104°40'06.018"W	0.39	
9388.00	89.720	177.250	7040.84	1526.65	-1468.43	1513.20	1733053.22	14593950.92	40°11'02.811"N	104°40'05.963"W	0.62	
9477.00	90.490	176.690	7040.68	1615.64	-1557.30	1517.91	1733058.24	14593862.09	40°11'01.932"N	104°40'05.903"W	1.07	
9567.00	88.640	176.980	7041.36	1705.62	-1647.16	1522.88	1733063.54	14593772.29	40°11'01.044"N	104°40'05.839"W	2.08	
9657.00	88.890	176.990	7043.30	1795.60	-1737.01	1527.61	1733068.60	14593682.49	40°11'00.156"N	104°40'05.778"W	0.28	
9746.00	89.750	176.330	7044.36	1884.57	-1825.85	1532.79	1733074.11	14593593.70	40°10'59.278"N	104°40'05.711"W	1.22	
9836.00	87.720	179.950	7046.35	1974.53	-1915.76	1535.72	1733077.36	14593503.84	40°10'58.390"N	104°40'05.674"W	4.61	
9925.00	87.750	179.590	7049.86	2063.40	-2004.69	1536.07	1733078.04	14593414.95	40°10'57.511"N	104°40'05.669"W	0.41	
10015.00	88.980	182.210	7052.43	2153.22	-2094.64	1534.66	1733076.96	14593325.04	40°10'56.622"N	104°40'05.687"W	3.21	
10105.00	89.940	179.940	7053.28	2243.06	-2184.61	1532.97	1733075.60	14593235.09	40°10'55.733"N	104°40'05.709"W	2.74	
10194.00	90.890	179.590	7052.64	2332.00	-2273.61	1533.34	1733076.30	14593146.13	40°10'54.854"N	104°40'05.705"W	1.14	
10284.00	91.570	179.460	7050.70	2421.94	-2363.58	1534.08	1733077.37	14593056.20	40°10'53.965"N	104°40'05.695"W	0.77	
10374.00	91.480	178.740	7048.31	2511.88	-2453.54	1535.50	1733079.12	14592966.28	40°10'53.076"N	104°40'05.677"W	0.81	
10463.00	91.020	177.980	7046.37	2600.85	-2542.48	1538.04	1733081.99	14592877.38	40°10'52.197"N	104°40'05.644"W	1.00	
10553.00	91.910	178.270	7044.07	2690.82	-2632.40	1540.99	1733085.26	14592787.51	40°10'51.308"N	104°40'05.606"W	1.04	
10642.00	93.360	178.340	7039.98	2779.72	-2721.27	1543.62	1733088.22	14592698.69	40°10'50.430"N	104°40'05.573"W	1.63	
10732.00	90.550	177.430	7036.91	2869.66	-2811.14	1546.93	1733091.86	14592608.86	40°10'49.542"N	104°40'05.530"W	3.28	
10821.00	89.720	177.360	7036.70	2958.65	-2900.05	1550.98	1733096.23	14592520.01	40°10'48.663"N	104°40'05.478"W	0.94	
10911.00	89.420	175.810	7037.37	3048.63	-2989.88	1556.34	1733101.92	14592430.23	40°10'47.775"N	104°40'05.409"W	1.75	
11000.00	89.540	177.540	7038.18	3137.61	-3078.73	1561.50	1733107.41	14592341.44	40°10'46.898"N	104°40'05.342"W	1.95	
11090.00	88.830	176.280	7039.46	3227.59	-3168.58	1566.35	1733112.59	14592251.63	40°10'46.010"N	104°40'05.280"W	1.61	
11179.00	91.690	178.840	7039.05	3316.57	-3257.49	1570.14	1733116.70	14592162.78	40°10'45.131"N	104°40'05.231"W	4.31	
11269.00	92.060	178.380	7036.11	3406.51	-3347.41	1572.32	1733119.21	14592072.90	40°10'44.242"N	104°40'05.203"W	0.66	
11358.00	92.220	178.100	7032.79	3495.44	-3436.31	1575.05	1733122.27	14591984.05	40°10'43.364"N	104°40'05.168"W	0.36	
11448.00	92.620	177.020	7028.99	3585.36	-3526.14	1578.88	1733126.43	14591894.26	40°10'42.476"N	104°40'05.119"W	1.28	
11538.00	92.890	177.140	7024.66	3675.25	-3615.92	1583.46	1733131.33	14591804.54	40°10'41.589"N	104°40'05.060"W	0.33	
11627.00	93.330	176.600	7019.83	3764.11	-3704.66	1588.31	1733136.51	14591715.85	40°10'40.712"N	104°40'04.997"W	0.78	
11717.00	91.020	178.220	7016.42	3854.03	-3794.49	1592.38	1733140.90	14591626.07	40°10'39.824"N	104°40'04.945"W	3.13	
11807.00	91.450	178.510	7014.48	3944.01	-3884.43	1594.94	1733143.80	14591536.17	40°10'38.935"N	104°40'04.912"W	0.58	
11896.00	92.130	177.890	7011.70	4032.96	-3973.35	1597.74	1733146.92	14591447.31	40°10'38.057"N	104°40'04.876"W	1.03	
11985.00	90.340	176.650	7009.78	4121.93	-4062.22	1601.98	1733151.48	14591358.49	40°10'37.179"N	104°40'04.822"W	2.45	
12075.00	90.400	176.650	7009.20	4211.91	-4152.06	1607.24	1733157.07	14591268.70	40°10'36.291"N	104°40'04.754"W	0.07	
12164.00	90.860	176.430	7008.22	4300.89	-4240.90	1612.61	1733162.76	14591179.92	40°10'35.413"N	104°40'04.685"W	0.57	
12254.00	91.050	176.280	7006.72	4390.85	-4330.70	1618.33	1733168.81	14591090.17	40°10'34.525"N	104°40'04.611"W	0.27	
12342.00	90.280	176.910	7005.70	4478.82	-4418.54	1623.55	1733174.36	14591002.39	40°10'33.657"N	104°40'04.544"W	1.13	
12419.00†	90.331	176.470	7005.29	4555.81	-4495.41	1628.00	1733179.08	14590925.56	40°10'32.898"N	104°40'04.487"W	0.58	ENTER RADISU TOE (418'FSL & 2472'FWL,SEC.33) 40.1758049 -104.6679130
12433.00	90.340	176.390	7005.20	4569.80	-4509.38	1628.87	1733180.01	14590911.60	40°10'32.760"N	104°40'04.476"W	0.58	
12523.00	90.030	178.810	7004.91	4659.80	-4599.30	1632.64	1733184.10	14590821.74	40°10'31.871"N	104°40'04.427"W	2.71	
12612.00	90.180	178.440	7004.75	4748.79	-4688.27	1634.78	1733186.56	14590732.81	40°10'30.992"N	104°40'04.400"W	0.45	
12702.00	90.430	179.120	7004.27	4838.77	-4778.25	1636.69	1733188.81	14590642.87	40°10'30.103"N	104°40'04.375"W	0.80	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 CANNON 2N-4HZ (371'FNL & 1169'FWL,SEC.33)
Area	COLORADO	Well	CANNON 2N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CANNON 2N-4HZ AWB
Facility	SEC.33-T3N-R65W		

WELLPATH DATA (185 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
12791.00	90.460	178.700	7003.58	4927.75	-4867.23	1638.38	1733190.83	14590553.93	40°10'29.223"N	104°40'04.353"W	0.47	
12881.00	92.900	179.030	7000.94	5017.69	-4957.17	1640.17	1733192.94	14590464.04	40°10'28.335"N	104°40'04.331"W	2.74	
12970.00	93.080	178.680	6996.30	5106.55	-5046.03	1641.94	1733195.04	14590375.22	40°10'27.457"N	104°40'04.308"W	0.44	
13034.00	93.450	177.970	6992.65	5170.44	-5109.89	1643.81	1733197.14	14590311.38	40°10'26.825"N	104°40'04.284"W	1.25	LAST BHGE MWD+IFR1+SC SURVEY
13080.00	93.450	177.970	6989.89	5216.36	-5155.78	1645.44	1733198.94	14590265.52	40°10'26.372"N	104°40'04.263"W	0.00	PTB (243'FNL & 2489'FWL,SEC.04) 40.1739922 -104.6678508

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.04-T2N-R65W	0.00	1.82	-179.98	1731355.31	14595414.36	40°11'17.340"N	104°40'27.779"W	polygon
SEC.28-T3N-R65W	0.00	1.82	-179.98	1731355.31	14595414.36	40°11'17.340"N	104°40'27.779"W	polygon
SEC.33-T3N-R65W	0.00	1.82	-179.98	1731355.31	14595414.36	40°11'17.340"N	104°40'27.779"W	polygon
CANNON 2N-4HZ BHL REV-1 (252'FNL & 2460'FWL,SEC.04)	6987.00	-5165.33	1616.31	1733169.86	14590255.86	40°10'26.278"N	104°40'04.638"W	point
CANNON 2N-4HZ BHL REV-2 (252'FNL & 2485'FWL,SEC.04)	6987.00	-5165.33	1641.31	1733194.85	14590255.96	40°10'26.278"N	104°40'04.316"W	point
CANNON 2N-4HZ HEEL REV-1 (153'FNL & 2612'FWL,SEC.33)	7043.00	218.99	1444.98	1732978.82	14595637.40	40°11'19.486"N	104°40'06.841"W	point
CANNON 2N-4HZ HEEL REV-2 (153'FNL & 2597'FWL,SEC.33)	7043.00	218.99	1429.98	1732963.82	14595637.35	40°11'19.486"N	104°40'07.034"W	point
CANNON 2N-4HZ INT. TARGET@2500'VS	7043.00	-2441.69	1534.40	1733077.98	14592978.12	40°10'53.193"N	104°40'05.691"W	point
CANNON 2N-4HZ LANDBOX	7043.00	0.00	0.00	1731355.22	14595413.20	40°11'17.322"N	104°40'25.460"W	polygon
CANNON 2N-4HZ RADIUS 1	7043.00	372.12	1450.22	1732983.50	14595790.50	40°11'20.999"N	104°40'06.773"W	polygon
CANNON 2N-4HZ RADIUS 2	7043.00	-4913.13	1435.51	1732988.20	14590507.30	40°10'28.770"N	104°40'06.967"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: CANNON 2N-4HZ AWB Ref Wellpath: CANNON 2N-4HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	1851.00	Custom APC_ISCWSA REV 2 MWD+IFR1 (approximation)	TOTAL Custom APC_ISCWSA Rev-2 MWD+IFR1 <128 - 1851>	CANNON 2N-4HZ AWB
1851.00	13034.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHGE Custom APC_ISCWSA Rev-2 MWD+IFR1+SC <1931 - 13034>	CANNON 2N-4HZ AWB
13034.00	13080.00	Blind Drilling (std)	Projection to bit	CANNON 2N-4HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#13 CANNON 2N-4HZ (371'FNL & 1169'FWL,SEC.33)
Area	COLORADO	Well	CANNON 2N-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	CANNON 2N-4HZ AWP
Facility	SEC.33-T3N-R65W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
128.00	1.270	62.810	127.99	FIRST TOTAL MWD+IFR1 SURVEY
1851.00	16.660	58.680	1803.60	LAST TOTAL MWD+IFR1 SURVEY
1931.00	16.040	59.550	1880.36	FIRST BHGE MWD+IFR1+SC SURVEY
4132.00	22.188	54.277	3923.88	ENTER LANDBOX (289'FSL & 2161'FWL,SEC.28) 40.1899565 -104.6701888
6539.00	1.326	117.443	6247.03	KOP
7792.00	88.130	176.630	7040.53	LANDING (246'FNL & 2605'FWL,SEC.33) 40.1884889 -104.6686000
8007.00	91.513	177.759	7039.25	EXIT RADIUS HEEL (460'FNL & 2614'FWL,SEC.33) 40.1878994 -104.6685672
12419.00	90.331	176.470	7005.29	ENTER RADISU TOE (418'FSL & 2472'FWL,SEC.33) 40.1758049 -104.6679130
13034.00	93.450	177.970	6992.65	LAST BHGE MWD+IFR1+SC SURVEY
13080.00	93.450	177.970	6989.89	PTB (243'FNL & 2489'FWL,SEC.04) 40.1739922 -104.6678508