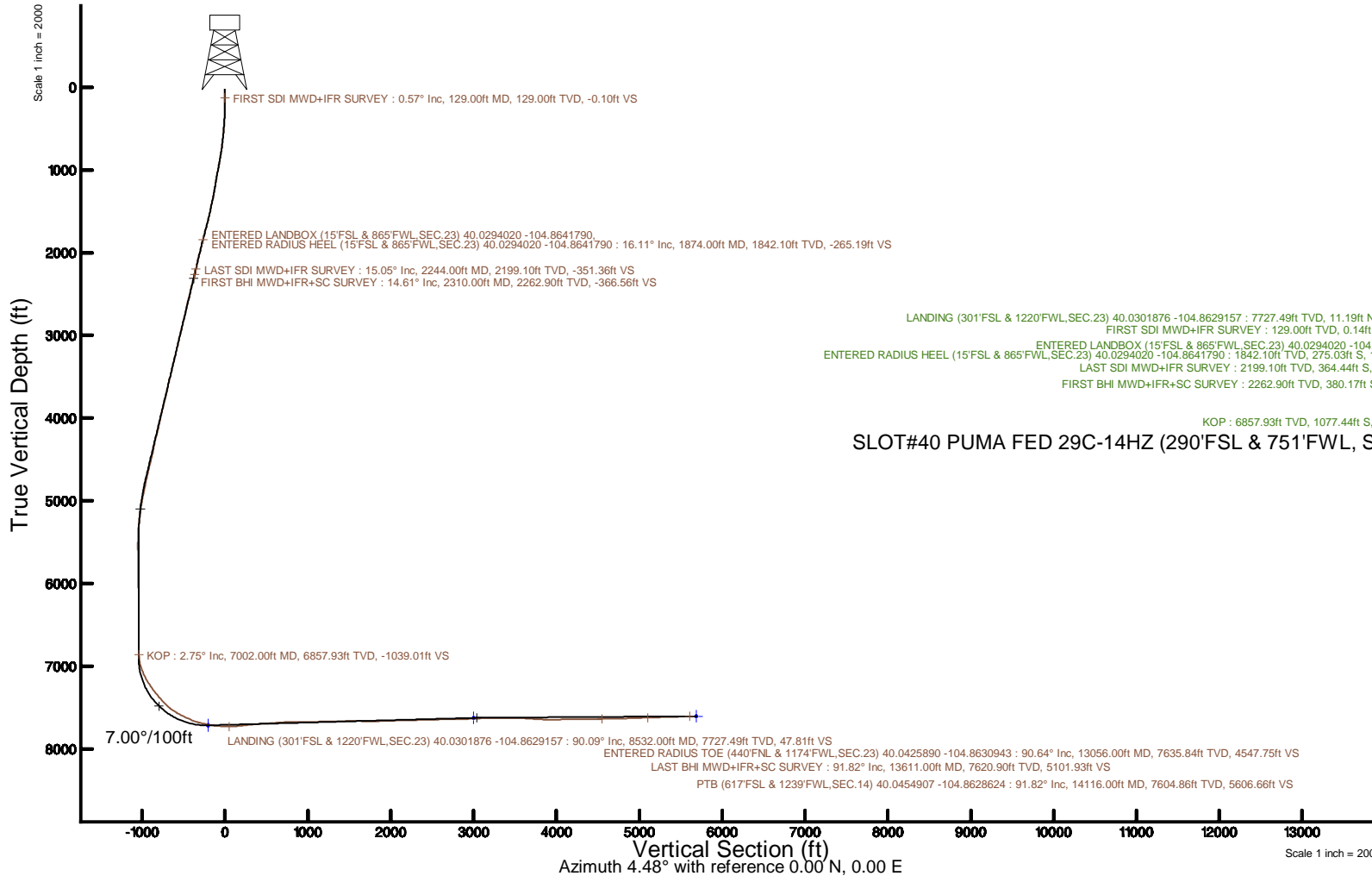
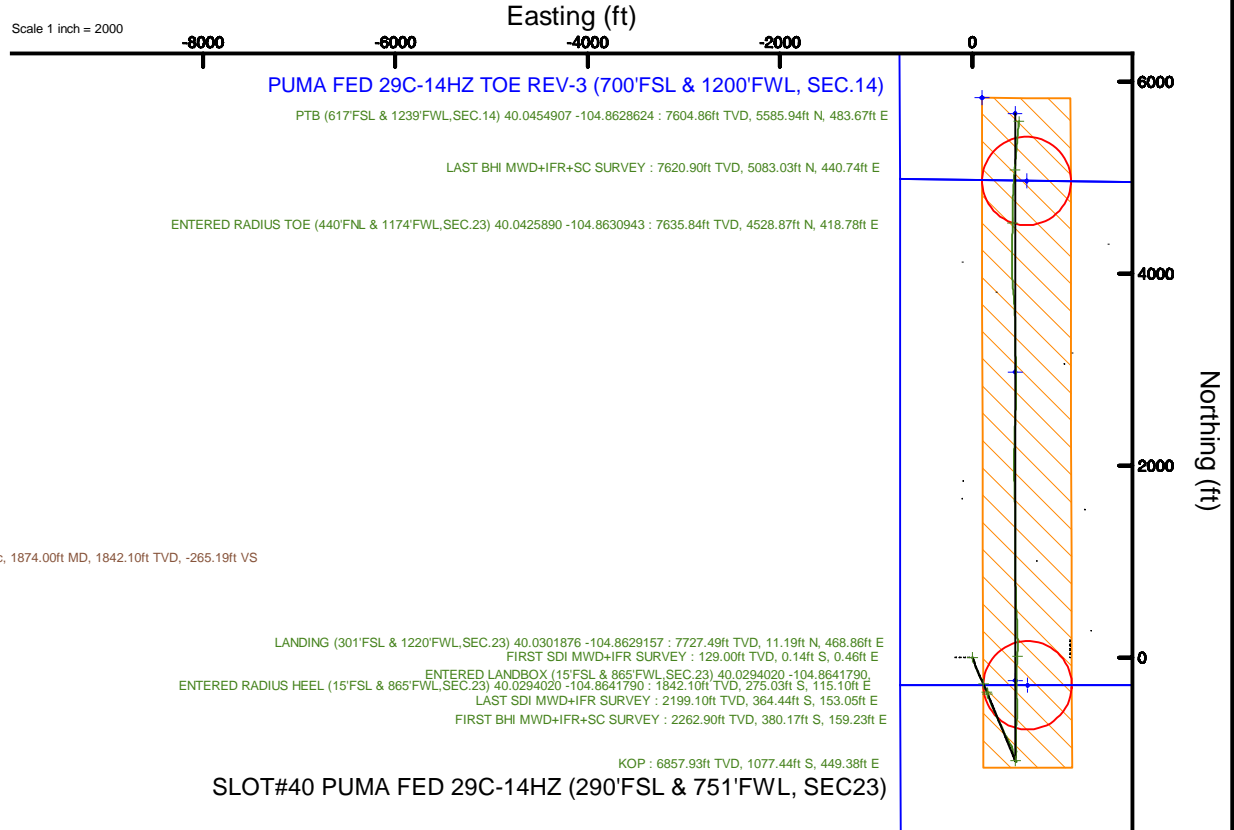


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#40 PUMA FED 29C-14HZ (290'FSL & 751'FWL, SEC23)
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: PUMA FED 29C-14HZ
 Facility: SEC.23-T1N-R67W Wellbore: PUMA FED 29C-14HZ PWB

Plot reference wellpath is PUMA FED 29C-14HZ REV 8.0 PWP	Grid System: NAD83 / UTM Zone 13 North, US feet
True vertical depths are referenced to NABORS X22 (RKB 32) (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to NABORS X22 (RKB 32) (RKB)	North Reference: True north
NABORS X22 (RKB 32) (RKB) to Mean Sea Level: 5023 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#40 PUMA FED 29C-14HZ (290'FSL & 751'FWL, SEC23)); 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2017-04-11
	Database: WA_DEN_Anadarko_Defn



SLOT#40 PUMA FED 29C-14HZ (290'FSL & 751'FWL, SEC23)

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#40 PUMA FED 29C-14HZ (290'FSL & 751'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 29C-14HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 29C-14HZ AWB
Facility	SEC.23-T1N-R67W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999602	Report Generated	6/5/2017 at 8:43:52 AM
Convergence at slot	0.09° East	Database/Source file	WA_DEN_Anadarko_Defn/PUMA_FED_29C-14HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-1.91	-3793.70	1678321.68	14537743.68	40°01'48.565"N	104°51'52.524"W
Facility Reference Pt			1682113.86	14537751.93	40°01'48.587"N	104°51'03.755"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 (RKB 32') (RKB) to Facility Vertical Datum	5023.00ft
Horizontal Reference Pt	Slot	NABORS X22 (RKB 32') (RKB) to Mean Sea Level	5023.00ft
Vertical Reference Pt	NABORS X22 (RKB 32') (RKB)	NABORS X22 (RKB 32') (RKB) to Mud Line at Slot (SLOT#40 PUMA FED 29C-14HZ (290'FSL & 751'FWL, SEC23))	5023.00ft
MD Reference Pt	NABORS X22 (RKB 32') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	4.48°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#40 PUMA FED 29C-14HZ (290'FSL & 751'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 29C-14HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 29C-14HZ AWB
Facility	SEC.23-T1N-R67W		

WELLPATH DATA (153 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	0.00	106.920	0.00	0.00	0.00	0.00	1678321.68	14537743.67	40°01'48.565"N	104°51'52.524"W	0.00	
32.00	0.00	106.920	32.00	0.00	0.00	0.00	1678321.68	14537743.67	40°01'48.565"N	104°51'52.524"W	0.00	
129.00	0.570	106.920	129.00	-0.10	-0.14	0.46	1678322.15	14537743.54	40°01'48.564"N	104°51'52.518"W	0.59	FIRST SDI MWD+IFR SURVEY
184.00	0.500	124.540	184.00	-0.28	-0.36	0.92	1678322.61	14537743.32	40°01'48.561"N	104°51'52.512"W	0.32	
284.00	2.100	153.050	283.97	-2.07	-2.24	2.11	1678323.80	14537741.44	40°01'48.543"N	104°51'52.497"W	1.68	
372.00	3.540	154.150	371.86	-5.79	-6.12	4.03	1678325.72	14537737.56	40°01'48.505"N	104°51'52.472"W	1.64	
461.00	4.710	153.640	460.63	-11.30	-11.87	6.85	1678328.55	14537731.82	40°01'48.448"N	104°51'52.436"W	1.32	
550.00	6.080	154.550	549.23	-18.52	-19.40	10.49	1678332.20	14537724.30	40°01'48.373"N	104°51'52.389"W	1.54	
637.00	6.850	160.500	635.68	-27.25	-28.45	14.21	1678335.93	14537715.26	40°01'48.284"N	104°51'52.341"W	1.17	
721.00	8.160	164.770	718.96	-37.44	-38.92	17.45	1678339.18	14537704.79	40°01'48.180"N	104°51'52.300"W	1.69	
854.00	10.610	163.340	850.17	-57.75	-59.76	23.44	1678345.20	14537683.97	40°01'47.974"N	104°51'52.223"W	1.85	
941.00	11.230	164.710	935.59	-73.19	-75.61	27.97	1678349.75	14537668.14	40°01'47.818"N	104°51'52.164"W	0.77	
1030.00	11.240	158.480	1022.89	-89.14	-92.04	33.43	1678355.24	14537651.73	40°01'47.655"N	104°51'52.094"W	1.36	
1117.00	10.650	158.370	1108.31	-103.98	-107.40	39.51	1678361.34	14537636.38	40°01'47.504"N	104°51'52.016"W	0.68	
1205.00	10.800	155.930	1194.77	-118.53	-122.49	45.87	1678367.72	14537621.31	40°01'47.355"N	104°51'51.934"W	0.54	
1292.00	12.380	156.510	1279.99	-133.93	-138.48	52.91	1678374.78	14537605.33	40°01'47.196"N	104°51'51.844"W	1.82	
1379.00	13.070	158.460	1364.86	-151.00	-156.19	60.24	1678382.14	14537587.64	40°01'47.022"N	104°51'51.750"W	0.93	
1465.00	13.580	157.710	1448.54	-168.76	-174.57	67.64	1678389.56	14537569.27	40°01'46.840"N	104°51'51.654"W	0.63	
1554.00	14.770	154.080	1534.83	-187.87	-194.45	76.56	1678398.51	14537549.42	40°01'46.643"N	104°51'51.540"W	1.67	
1643.00	16.270	153.950	1620.58	-208.40	-215.85	87.00	1678408.97	14537528.04	40°01'46.432"N	104°51'51.406"W	1.69	
1729.00	16.830	154.520	1703.02	-229.56	-237.91	97.64	1678419.65	14537506.01	40°01'46.214"N	104°51'51.269"W	0.68	
1818.00	16.310	154.810	1788.32	-251.58	-260.85	108.50	1678430.54	14537483.09	40°01'45.987"N	104°51'51.129"W	0.59	
1874.00	16.110	155.309	1842.10	-265.20	-275.03	115.10	1678437.15	14537468.93	40°01'45.847"N	104°51'51.044"W	0.43	ENTERED LANDBOX (15'FSL & 865'FWL, SEC.23) 40.0294020 -104.8641790, ENTERED RADIUS HEEL (15'FSL &
1905.00	16.000	155.590	1871.89	-272.69	-282.83	118.66	1678440.73	14537461.14	40°01'45.770"N	104°51'50.999"W	0.43	
1992.00	15.810	157.060	1955.56	-293.71	-304.66	128.23	1678450.33	14537439.33	40°01'45.554"N	104°51'50.876"W	0.51	
2080.00	14.620	157.870	2040.47	-314.28	-325.99	137.09	1678459.21	14537418.03	40°01'45.343"N	104°51'50.762"W	1.37	
2169.00	14.600	156.850	2126.59	-334.26	-346.71	145.73	1678467.88	14537397.33	40°01'45.139"N	104°51'50.651"W	0.29	
2244.00	15.050	158.280	2199.10	-351.38	-364.44	153.05	1678475.23	14537379.61	40°01'44.963"N	104°51'50.557"W	0.77	LAST SDI MWD+IFR SURVEY
2310.00	14.610	158.820	2262.90	-366.57	-380.17	159.23	1678481.43	14537363.90	40°01'44.808"N	104°51'50.477"W	0.70	FIRST BHI MWD+IFR+SC SURVEY
2404.00	15.760	161.970	2353.62	-389.05	-403.36	167.46	1678489.69	14537340.73	40°01'44.579"N	104°51'50.371"W	1.51	
2498.00	15.450	161.050	2444.15	-412.33	-427.34	175.48	1678497.74	14537316.77	40°01'44.342"N	104°51'50.268"W	0.42	
2593.00	14.810	159.930	2535.86	-434.98	-450.71	183.76	1678506.05	14537293.42	40°01'44.111"N	104°51'50.162"W	0.74	
2687.00	14.290	159.750	2626.84	-456.45	-472.88	191.90	1678514.22	14537271.27	40°01'43.892"N	104°51'50.057"W	0.56	
2781.00	15.140	157.280	2717.76	-477.90	-495.09	200.65	1678523.01	14537249.09	40°01'43.672"N	104°51'49.945"W	1.12	
2874.00	14.160	155.950	2807.74	-498.70	-516.68	209.98	1678532.36	14537227.52	40°01'43.459"N	104°51'49.825"W	1.11	
2969.00	15.320	157.540	2899.61	-520.10	-538.89	219.51	1678541.92	14537205.33	40°01'43.240"N	104°51'49.702"W	1.29	
3063.00	14.360	154.940	2990.47	-541.31	-560.93	229.19	1678551.64	14537183.32	40°01'43.022"N	104°51'49.578"W	1.24	
3156.00	15.990	158.060	3080.23	-562.82	-583.28	238.86	1678561.34	14537161.01	40°01'42.801"N	104°51'49.453"W	1.96	
3251.00	14.380	155.710	3171.91	-584.88	-606.15	248.60	1678571.11	14537138.15	40°01'42.575"N	104°51'49.328"W	1.81	
3344.00	14.700	154.910	3261.93	-605.26	-627.36	258.36	1678580.89	14537116.96	40°01'42.365"N	104°51'49.203"W	0.41	
3438.00	16.350	156.570	3352.50	-627.33	-650.30	268.68	1678591.24	14537094.04	40°01'42.139"N	104°51'49.070"W	1.82	
3532.00	14.730	153.390	3443.06	-649.26	-673.13	279.29	1678601.89	14537071.24	40°01'41.913"N	104°51'48.934"W	1.95	
3626.00	15.660	154.510	3533.77	-670.48	-695.27	290.11	1678612.73	14537049.13	40°01'41.694"N	104°51'48.795"W	1.04	
3721.00	13.890	152.390	3625.63	-691.25	-716.95	300.91	1678623.56	14537027.47	40°01'41.480"N	104°51'48.656"W	1.95	
3815.00	15.070	155.820	3716.64	-711.53	-738.09	311.14	1678633.82	14537006.35	40°01'41.271"N	104°51'48.524"W	1.55	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#40 PUMA FED 29C-14HZ (290'FSL & 751'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 29C-14HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 29C-14HZ AWB
Facility	SEC.23-T1N-R67W		

WELLPATH DATA (153 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
3909.00	16.240	159.150	3807.16	-734.14	-761.53	320.83	1678643.54	14536982.94	40°01'41.039"N	104°51'48.400"W	1.57	
4003.00	14.810	156.660	3897.73	-756.65	-784.84	330.27	1678653.01	14536959.65	40°01'40.809"N	104°51'48.278"W	1.68	
4097.00	14.440	146.370	3988.70	-776.50	-805.63	341.52	1678664.29	14536938.88	40°01'40.603"N	104°51'48.134"W	2.79	
4191.00	14.730	151.420	4079.67	-795.73	-825.89	353.73	1678676.52	14536918.66	40°01'40.403"N	104°51'47.977"W	1.39	
4285.00	16.430	157.970	4170.22	-817.65	-848.71	364.43	1678687.26	14536896.86	40°01'40.178"N	104°51'47.839"W	2.60	
4379.00	14.580	156.890	4260.80	-840.03	-871.92	374.06	1678696.92	14536872.68	40°01'39.948"N	104°51'47.715"W	1.99	
4473.00	14.180	145.570	4351.87	-859.48	-892.30	385.22	1678708.10	14536852.32	40°01'39.747"N	104°51'47.572"W	3.02	
4567.00	16.210	144.530	4442.58	-878.50	-912.48	399.34	1678722.25	14536832.17	40°01'39.548"N	104°51'47.391"W	2.18	
4661.00	15.270	159.090	4533.09	-899.75	-934.74	411.38	1678734.32	14536809.93	40°01'39.328"N	104°51'47.236"W	4.31	
4754.00	13.190	171.990	4623.25	-921.18	-956.70	417.23	1678740.20	14536788.00	40°01'39.111"N	104°51'47.161"W	4.06	
4778.00	12.990	173.520	4646.63	-926.50	-962.09	417.92	1678740.90	14536782.61	40°01'39.057"N	104°51'47.152"W	1.67	
4872.00	13.160	168.510	4738.19	-947.16	-983.07	421.24	1678744.25	14536761.64	40°01'38.850"N	104°51'47.109"W	1.22	
4967.00	12.160	166.380	4830.88	-967.07	-1003.39	425.75	1678748.79	14536741.33	40°01'38.649"N	104°51'47.051"W	1.16	
5061.00	11.730	165.890	4922.85	-985.54	-1022.28	430.41	1678753.48	14536722.46	40°01'38.462"N	104°51'46.991"W	0.47	
5156.00	10.750	163.280	5016.03	-1002.95	-1040.13	435.32	1678758.41	14536704.62	40°01'38.286"N	104°51'46.928"W	1.16	
5250.00	9.520	159.300	5108.56	-1018.16	-1055.80	440.59	1678763.70	14536688.97	40°01'38.131"N	104°51'46.860"W	1.51	
5343.00	8.570	155.500	5200.40	-1031.18	-1069.30	446.18	1678769.31	14536675.48	40°01'37.998"N	104°51'46.788"W	1.21	
5437.00	6.390	157.990	5293.60	-1041.99	-1080.53	451.04	1678774.19	14536664.27	40°01'37.887"N	104°51'46.726"W	2.34	
5532.00	3.380	142.060	5388.24	-1048.79	-1087.64	454.75	1678777.90	14536657.16	40°01'37.817"N	104°51'46.678"W	3.45	
5626.00	2.260	104.610	5482.14	-1051.17	-1090.29	458.25	1678781.40	14536654.52	40°01'37.790"N	104°51'46.633"W	2.23	
5719.00	0.360	308.410	5575.12	-1051.33	-1090.57	459.79	1678782.95	14536654.24	40°01'37.788"N	104°51'46.614"W	2.79	
5813.00	0.580	5.760	5669.11	-1050.69	-1089.92	459.61	1678782.76	14536654.90	40°01'37.794"N	104°51'46.616"W	0.52	
5907.00	0.910	18.090	5763.10	-1049.48	-1088.73	459.89	1678783.04	14536656.08	40°01'37.806"N	104°51'46.612"W	0.39	
6000.00	0.810	4.020	5856.09	-1048.11	-1087.38	460.16	1678783.31	14536657.44	40°01'37.819"N	104°51'46.609"W	0.25	
6094.00	1.010	344.120	5950.08	-1046.67	-1085.92	459.98	1678783.13	14536658.89	40°01'37.834"N	104°51'46.611"W	0.39	
6188.00	1.250	336.670	6044.06	-1044.98	-1084.18	459.35	1678782.50	14536660.63	40°01'37.851"N	104°51'46.619"W	0.30	
6282.00	1.320	318.490	6138.04	-1043.33	-1082.43	458.23	1678781.37	14536662.38	40°01'37.868"N	104°51'46.634"W	0.44	
6376.00	1.110	315.350	6232.02	-1041.98	-1080.97	456.87	1678780.01	14536663.84	40°01'37.883"N	104°51'46.651"W	0.23	
6471.00	1.070	307.720	6327.00	-1040.89	-1079.77	455.52	1678778.66	14536665.03	40°01'37.894"N	104°51'46.668"W	0.16	
6565.00	1.100	302.150	6420.99	-1039.99	-1078.75	454.06	1678777.20	14536666.05	40°01'37.904"N	104°51'46.687"W	0.12	
6659.00	1.050	283.340	6514.97	-1039.44	-1078.07	452.46	1678775.60	14536666.72	40°01'37.911"N	104°51'46.708"W	0.38	
6753.00	0.440	264.220	6608.96	-1039.37	-1077.91	451.26	1678774.40	14536666.88	40°01'37.913"N	104°51'46.723"W	0.69	
6847.00	0.340	231.340	6702.96	-1039.62	-1078.12	450.69	1678773.83	14536666.67	40°01'37.911"N	104°51'46.731"W	0.26	
6941.00	0.770	235.640	6796.95	-1040.21	-1078.65	449.95	1678773.09	14536666.14	40°01'37.905"N	104°51'46.740"W	0.46	
7002.00†	2.754	351.144	6857.93	-1039.04	-1077.44	449.38	1678772.52	14536667.36	40°01'37.917"N	104°51'46.747"W	5.18	KOP
7036.00	4.490	356.100	6891.86	-1036.93	-1075.30	449.17	1678772.30	14536669.49	40°01'37.939"N	104°51'46.750"W	5.18	
7129.00	15.860	5.450	6983.25	-1020.57	-1058.96	450.13	1678773.24	14536685.82	40°01'38.100"N	104°51'46.738"W	12.31	
7221.00	22.170	8.330	7070.19	-990.65	-1029.24	453.84	1678776.91	14536715.53	40°01'38.394"N	104°51'46.690"W	6.93	
7313.00	28.080	1.120	7153.47	-951.67	-990.38	456.78	1678779.79	14536754.39	40°01'38.778"N	104°51'46.652"W	7.22	
7405.00	34.720	357.700	7231.96	-903.98	-942.49	456.15	1678779.09	14536802.25	40°01'39.251"N	104°51'46.660"W	7.47	
7497.00	37.960	358.580	7306.06	-849.80	-888.01	454.40	1678777.25	14536856.71	40°01'39.789"N	104°51'46.683"W	3.57	
7589.00	41.000	357.300	7377.06	-791.70	-829.57	452.28	1678775.04	14536915.13	40°01'40.367"N	104°51'46.710"W	3.42	
7684.00	42.930	0.590	7447.70	-728.49	-766.07	451.14	1678773.81	14536978.60	40°01'40.994"N	104°51'46.725"W	3.08	
7778.00	52.830	9.500	7510.74	-659.00	-696.88	457.68	1678780.24	14537047.77	40°01'41.678"N	104°51'46.641"W	12.64	
7873.00	60.680	1.560	7562.84	-579.72	-617.93	465.07	1678787.51	14537126.70	40°01'42.458"N	104°51'46.546"W	10.81	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#40 PUMA FED 29C-14HZ (290'FSL & 751'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 29C-14HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 29C-14HZ AWB
Facility	SEC.23-T1N-R67W		

WELLPATH DATA (153 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
7967.00	63.490	0.670	7606.84	-496.81	-534.90	466.68	1678788.99	14537209.70	40°01'43.279"N	104°51'46.525"W	3.10	
8061.00	67.950	356.440	7645.50	-411.63	-449.29	464.46	1678786.64	14537295.27	40°01'44.125"N	104°51'46.553"W	6.27	
8156.00	74.090	357.040	7676.38	-322.66	-359.64	459.37	1678781.41	14537384.88	40°01'45.011"N	104°51'46.619"W	6.49	
8250.00	77.800	359.900	7699.21	-232.00	-268.51	456.95	1678778.86	14537475.96	40°01'45.911"N	104°51'46.650"W	4.93	
8344.00	82.740	0.930	7715.09	-139.61	-175.90	457.63	1678779.40	14537568.54	40°01'46.827"N	104°51'46.641"W	5.37	
8438.00	86.020	5.390	7724.30	-46.13	-82.53	462.79	1678784.42	14537661.88	40°01'47.749"N	104°51'46.575"W	5.87	
8532.00	90.090	2.020	7727.49	47.78	11.19	468.86	1678790.34	14537755.57	40°01'48.676"N	104°51'46.497"W	5.62	LANDING (301'FSL & 1220'FWL, SEC.23) 40.0301876 -104.8629157
8625.00	95.280	0.010	7723.14	140.47	104.03	470.51	1678791.84	14537848.38	40°01'49.593"N	104°51'46.475"W	5.98	
8719.00	97.030	359.610	7713.06	233.61	197.49	470.20	1678791.39	14537941.80	40°01'50.517"N	104°51'46.479"W	1.91	
8813.00	94.810	358.470	7703.36	326.68	290.97	468.63	1678789.68	14538035.24	40°01'51.440"N	104°51'46.500"W	2.65	
8908.00	93.300	356.760	7696.64	420.76	385.64	464.68	1678785.60	14538129.87	40°01'52.376"N	104°51'46.550"W	2.40	
9001.00	94.630	359.990	7690.21	512.61	478.23	458.82	1678779.59	14538222.41	40°01'53.291"N	104°51'46.626"W	1.65	
9095.00	94.500	358.010	7682.73	605.51	571.80	453.92	1678774.55	14538315.93	40°01'54.216"N	104°51'46.689"W	2.15	
9189.00	93.540	359.250	7676.14	698.78	665.54	451.67	1678772.17	14538409.63	40°01'55.142"N	104°51'46.717"W	1.67	
9283.00	91.810	358.620	7671.75	792.24	759.41	449.93	1678770.28	14538503.47	40°01'56.070"N	104°51'46.740"W	1.96	
9376.00	88.800	358.970	7671.26	884.77	852.38	447.97	1678768.18	14538596.39	40°01'56.988"N	104°51'46.765"W	3.26	
9471.00	89.720	359.170	7672.49	979.34	947.36	446.43	1678766.50	14538691.33	40°01'57.927"N	104°51'46.785"W	0.99	
9565.00	92.180	359.440	7670.93	1072.93	1041.33	445.29	1678765.21	14538785.27	40°01'58.856"N	104°51'46.799"W	2.63	
9659.00	91.450	0.290	7667.95	1166.58	1135.28	445.07	1678764.85	14538879.18	40°01'59.784"N	104°51'46.802"W	1.19	
9753.00	90.370	0.920	7666.46	1260.35	1229.26	446.06	1678765.70	14538973.12	40°02'00.713"N	104°51'46.789"W	1.33	
9847.00	91.170	0.490	7665.19	1354.14	1323.25	447.22	1678766.71	14539067.07	40°02'01.642"N	104°51'46.775"W	0.97	
9942.00	91.820	0.270	7662.72	1448.86	1418.21	447.85	1678767.20	14539162.00	40°02'02.580"N	104°51'46.766"W	0.72	
10035.00	90.770	358.270	7660.61	1541.45	1511.18	446.66	1678765.87	14539254.92	40°02'03.499"N	104°51'46.782"W	2.43	
10129.00	87.750	358.210	7661.83	1634.87	1605.11	443.78	1678762.85	14539348.82	40°02'04.427"N	104°51'46.819"W	3.21	
10224.00	89.690	358.220	7663.95	1729.28	1700.04	440.82	1678759.74	14539443.70	40°02'05.365"N	104°51'46.857"W	2.04	
10317.00	91.020	358.360	7663.37	1821.73	1792.99	438.04	1678756.83	14539536.61	40°02'06.284"N	104°51'46.892"W	1.44	
10412.00	92.900	358.350	7660.12	1916.13	1887.89	435.32	1678753.96	14539631.47	40°02'07.222"N	104°51'46.927"W	1.98	
10506.00	91.420	359.770	7656.58	2009.64	1981.81	433.78	1678752.28	14539725.35	40°02'08.150"N	104°51'46.947"W	2.18	
10600.00	90.430	1.200	7655.06	2103.39	2075.79	434.57	1678752.93	14539819.29	40°02'09.078"N	104°51'46.937"W	1.85	
10693.00	91.050	1.250	7653.86	2196.24	2168.76	436.56	1678754.78	14539912.23	40°02'09.997"N	104°51'46.911"W	0.67	
10787.00	92.710	1.090	7650.78	2290.02	2262.69	438.48	1678756.55	14540006.12	40°02'10.925"N	104°51'46.887"W	1.77	
10881.00	91.510	2.230	7647.32	2383.84	2356.58	441.20	1678759.13	14540099.98	40°02'11.853"N	104°51'46.852"W	1.76	
10975.00	91.600	1.770	7644.77	2477.72	2450.49	444.48	1678762.26	14540193.86	40°02'12.781"N	104°51'46.809"W	0.50	
11068.00	91.080	3.080	7642.59	2570.63	2543.38	448.42	1678766.06	14540286.71	40°02'13.699"N	104°51'46.759"W	1.52	
11162.00	90.280	1.890	7641.48	2664.57	2637.28	452.49	1678769.99	14540380.58	40°02'14.627"N	104°51'46.706"W	1.53	
11256.00	90.460	0.110	7640.87	2758.39	2731.26	454.13	1678771.48	14540474.53	40°02'15.556"N	104°51'46.685"W	1.90	
11350.00	91.690	0.180	7639.11	2852.10	2825.24	454.37	1678771.58	14540568.47	40°02'16.485"N	104°51'46.682"W	1.31	
11444.00	92.500	0.260	7635.67	2945.78	2919.18	454.73	1678771.80	14540662.37	40°02'17.413"N	104°51'46.678"W	0.87	
11538.00	92.740	358.810	7631.37	3039.33	3013.07	453.97	1678770.89	14540756.23	40°02'18.341"N	104°51'46.687"W	1.56	
11632.00	92.400	357.650	7627.16	3132.67	3106.93	451.07	1678767.85	14540850.05	40°02'19.268"N	104°51'46.725"W	1.28	
11727.00	90.990	0.000	7624.35	3227.16	3201.86	449.12	1678765.76	14540944.93	40°02'20.207"N	104°51'46.750"W	2.88	
11821.00	89.510	359.170	7623.94	3320.81	3295.86	448.44	1678764.94	14541038.89	40°02'21.135"N	104°51'46.758"W	1.81	
11916.00	90.150	359.120	7624.22	3415.40	3390.84	447.02	1678763.37	14541133.84	40°02'22.074"N	104°51'46.777"W	0.68	
12010.00	90.030	359.100	7624.07	3508.99	3484.83	445.56	1678761.77	14541227.78	40°02'23.003"N	104°51'46.795"W	0.13	
12103.00	85.740	357.120	7627.50	3601.33	3577.69	442.50	1678758.57	14541320.60	40°02'23.921"N	104°51'46.835"W	5.08	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#40 PUMA FED 29C-14HZ (290'FSL & 751'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 29C-14HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 29C-14HZ AWB
Facility	SEC.23-T1N-R67W		

WELLPATH DATA (153 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
12197.00	85.840	356.590	7634.40	3694.24	3671.30	437.36	1678753.29	14541414.16	40°02'24.846"N	104°51'46.901"W	0.57	
12291.00	86.980	354.880	7640.29	3786.96	3764.85	430.38	1678746.17	14541507.66	40°02'25.770"N	104°51'46.991"W	2.18	
12386.00	88.030	354.920	7644.43	3880.55	3859.38	421.94	1678737.59	14541602.15	40°02'26.704"N	104°51'47.099"W	1.11	
12480.00	91.080	357.600	7645.16	3973.56	3953.16	415.81	1678731.32	14541695.88	40°02'27.631"N	104°51'47.178"W	4.32	
12574.00	92.560	358.170	7642.17	4066.89	4047.04	412.35	1678727.71	14541789.72	40°02'28.559"N	104°51'47.222"W	1.69	
12668.00	91.940	0.960	7638.48	4160.46	4140.96	411.63	1678726.86	14541883.60	40°02'29.487"N	104°51'47.231"W	3.04	
12762.00	89.820	1.440	7637.04	4254.29	4234.92	413.60	1678728.68	14541977.52	40°02'30.416"N	104°51'47.206"W	2.31	
12857.00	90.090	0.860	7637.11	4349.13	4329.90	415.51	1678730.45	14542072.47	40°02'31.354"N	104°51'47.182"W	0.67	
12951.00	90.370	1.050	7636.73	4442.95	4423.89	417.07	1678731.87	14542166.42	40°02'32.283"N	104°51'47.161"W	0.36	
13045.00	90.580	0.840	7635.95	4536.77	4517.87	418.63	1678733.28	14542260.37	40°02'33.212"N	104°51'47.141"W	0.32	
13056.00†	90.641	0.766	7635.84	4547.74	4528.87	418.78	1678733.41	14542271.36	40°02'33.320"N	104°51'47.139"W	0.87	ENTERED RADIUS TOE (440'FNL & 1174'FWL, SEC.23) 40.0425890 -104.8630943
13140.00	91.110	0.200	7634.55	4631.53	4612.86	419.49	1678733.99	14542355.32	40°02'34.150"N	104°51'47.130"W	0.87	
13234.00	91.230	0.920	7632.63	4725.29	4706.83	420.41	1678734.77	14542449.26	40°02'35.079"N	104°51'47.119"W	0.78	
13328.00	91.910	2.710	7630.06	4819.15	4800.74	423.38	1678737.60	14542543.14	40°02'36.007"N	104°51'47.080"W	2.04	
13422.00	92.900	2.990	7626.11	4913.03	4894.54	428.05	1678742.13	14542636.90	40°02'36.934"N	104°51'47.020"W	1.09	
13517.00	90.800	3.770	7623.05	5007.95	4989.32	433.65	1678747.58	14542731.65	40°02'37.871"N	104°51'46.948"W	2.36	
13611.00	91.820	4.880	7620.90	5101.92	5083.03	440.74	1678754.52	14542825.33	40°02'38.797"N	104°51'46.857"W	1.60	LAST BHI MWD+IFR+SC SURVEY
14116.00	91.820	4.880	7604.86	5606.66	5585.94	483.67	1678796.68	14543328.11	40°02'43.767"N	104°51'46.305"W	0.00	PTB (617'FSL & 1239'FWL, SEC.14) 40.0454907 -104.8628624

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.14-T1N-R67W LINES	5023.00	7619.59	1865.35	1680174.71	14545363.04	40°03'03.863"N	104°51'28.537"W	polygon
SEC.23-T1N-R67W LINES	5023.00	2331.00	1885.29	1680202.68	14540076.60	40°02'11.600"N	104°51'28.286"W	polygon
SEC.26-T1N-R67W LINES	5023.00	-2922.50	1901.10	1680226.46	14534825.24	40°01'19.683"N	104°51'28.088"W	polygon
PUMA FED 29C-14HZ TOE REV-3 (700'FSL & 1200'FWL, SEC.14)	7603.00	5669.05	444.52	1678757.41	14543411.13	40°02'44.588"N	104°51'46.808"W	point
PUMA FED 29C-14HZ INTERMEDIATE TARGET @3000'VS REV-1	7623.00	2974.25	445.89	1678762.88	14540717.41	40°02'17.957"N	104°51'46.791"W	point
PUMA FED 29C-14HZ HEEL REV-2 (50'FSL & 1198'FWL, SEC.23)	7713.00	-240.02	447.52	1678769.39	14537504.43	40°01'46.193"N	104°51'46.771"W	point
PUMA FED 29C-14HZ CIRCLE-1	8021.00	-290.96	574.20	1678896.10	14537453.70	40°01'45.690"N	104°51'45.143"W	circle
PUMA FED 29C-14HZ CIRCLE-2	8021.00	4964.96	563.59	1678877.50	14542707.50	40°02'37.630"N	104°51'45.277"W	circle
PUMA FED 29C-14HZ LANDBOX	8021.00	5832.81	100.22	1678413.00	14543574.30	40°02'46.206"N	104°51'51.235"W	polygon

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#40 PUMA FED 29C-14HZ (290'FSL & 751'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 29C-14HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 29C-14HZ AWB
Facility	SEC.23-T1N-R67W		

WELLPATH COMPOSITION - Ref Wellbore: PUMA FED 29C-14HZ AWB Ref Wellpath: PUMA FED 29C-14HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.00	2244.00	Custom APC, ISCWSA REV 2 MWD+IFR1 (approximation)	SDI MWD+IFR SURVEYS <129 - 2244>	PUMA FED 29C-14HZ AWB
2244.00	13611.00	Custom APC, ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHI APC, ISCWSA REV 2 MWD+IFR1+SC <2310 - 13611>	PUMA FED 29C-14HZ AWB
13611.00	14116.00	Blind Drilling (std)	Projection to bit	PUMA FED 29C-14HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#40 PUMA FED 29C-14HZ (290'FSL & 751'FWL, SEC23)
Area	COLORADO	Well	PUMA FED 29C-14HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	PUMA FED 29C-14HZ AWB
Facility	SEC.23-T1N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
129.00	0.570	106.920	129.00	FIRST SDI MWD+IFR SURVEY
1874.00	16.110	155.309	1842.10	ENTERED LANDBOX (15'FSL & 865'FWL,SEC.23) 40.0294020 -104.8641790, ENTERED RADIUS HEEL (15'FSL & 865'FWL,SEC.23) 40.0294020 -104.8641790
2244.00	15.050	158.280	2199.10	LAST SDI MWD+IFR SURVEY
2310.00	14.610	158.820	2262.90	FIRST BHI MWD+IFR+SC SURVEY
7002.00	2.754	351.144	6857.93	KOP
8532.00	90.090	2.020	7727.49	LANDING (301'FSL & 1220'FWL,SEC.23) 40.0301876 -104.8629157
13056.00	90.641	0.766	7635.84	ENTERED RADIUS TOE (440'FNL & 1174'FWL,SEC.23) 40.0425890 -104.8630943
13611.00	91.820	4.880	7620.90	LAST BHI MWD+IFR+SC SURVEY
14116.00	91.820	4.880	7604.86	PTB (617'FSL & 1239'FWL,SEC.14) 40.0454907 -104.8628624