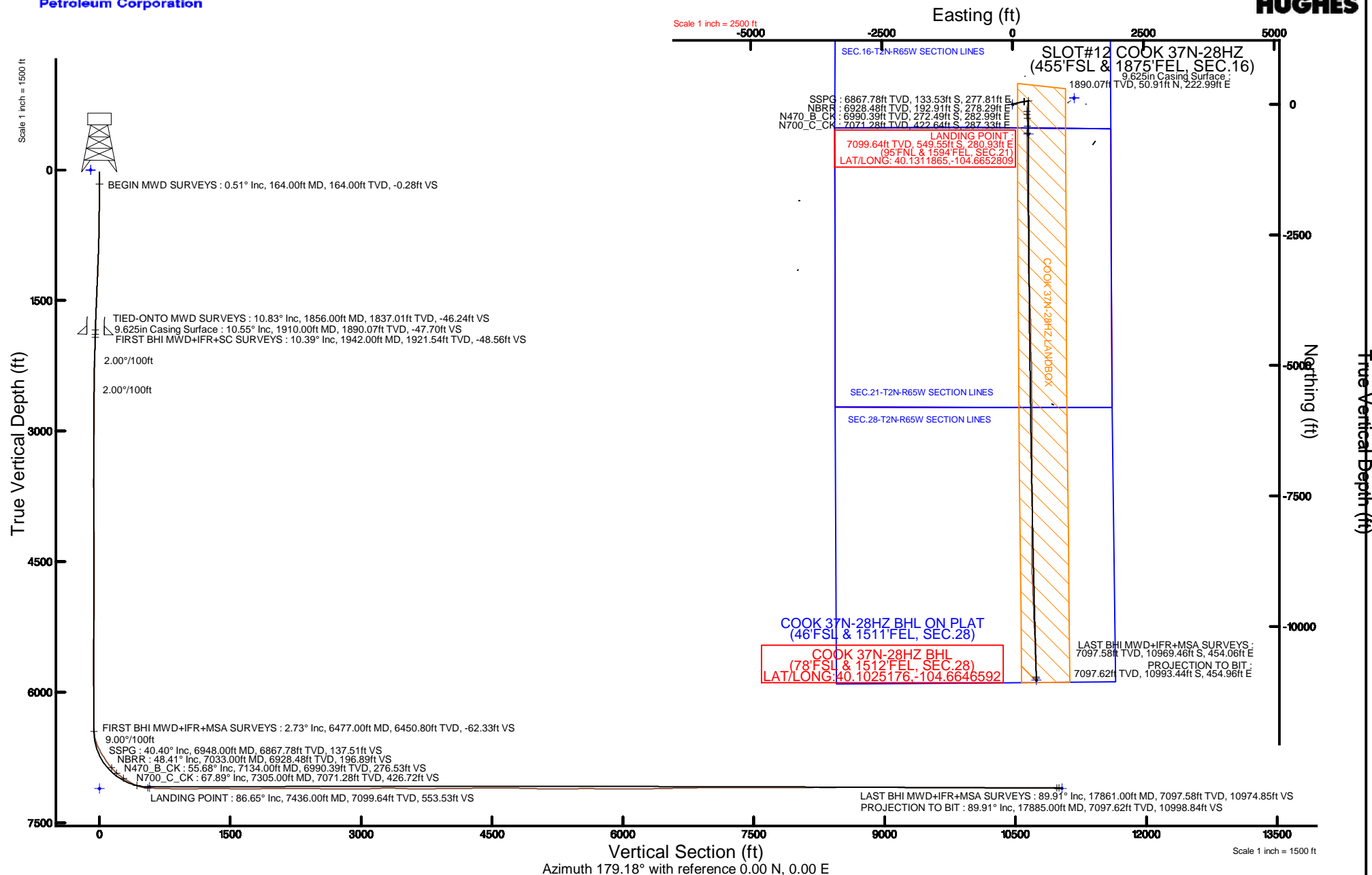


Location: COLORADO Slot: SLOT#12 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16)
Field: WELD COUNTY (UTM/TRUE NORTH) Well: COOK 37N-28HZ
Facility: SEC.16-T2N-R65W Wellbore: COOK 37N-28HZ PWB

Plot reference wellpath is COOK 37N-28HZ PWP (REV-A.0)	
True vertical depths are referenced to Rig on SLOT#005 COOK 37N-28HZ (455FSL & 1875FEL, SEC.16) (RKB)	Grid System: NAD83 / UTM Zone 13 North, US feet
Measured depths are referenced to Rig on SLOT#005 COOK 37N-28HZ (455FSL & 1875FEL, SEC.16) (RKB)	North Reference: True north
Rig on SLOT#05 COOK 37N-28HZ (455FSL & 1875FEL, SEC.16) (RKB) to Mean Sea Level: 4909 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#12 COOK 37N-28HZ (455FSL & 1875FEL, SEC.16)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: amarcn on 16/Dec/2015





Actual Wellpath Report

COOK 37N-28HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16)
Area	COLORADO	Well	COOK 37N-28HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	COOK 37N-28HZ AWB <17885>
Facility	SEC.16-T2N-R65W		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Amarcar
Scale	0.99961	Report Generated	16/Dec/2015 at 15:54
Convergence at slot	0.22° East	Database/Source file	WA_DEN_Anadarko_Defn/_COOK_37N-28HZ_AWB_17885_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-90.87	78.53	1733692.65	14575228.73	40°07'57.702"N	104°39'58.628"W
Facility Reference Pt			1733613.81	14575319.27	40°07'58.600"N	104°39'59.639"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on SLOT#05 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16) (RKB) to Facility Vertical Datum	4909.00ft
Horizontal Reference Pt	Slot	Rig on SLOT#05 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16) (RKB) to Mean Sea Level	4909.00ft
Vertical Reference Pt	Rig on SLOT#05 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16) (RKB)	Rig on SLOT#05 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16) (RKB) to Mud Line at Slot (SLOT#12 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16))	4909.00ft
MD Reference Pt	Rig on SLOT#05 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.18°

Actual Wellpath Report

COOK 37N-28HZ AWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16)
Area	COLORADO	Well	COOK 37N-28HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	COOK 37N-28HZ AWP <17885>
Facility	SEC.16-T2N-R65W		

WELLPATH DATA (187 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	296.140	0.00	0.00	0.00	0.00	40°07'57.702"N	104°39'58.628"W	0.00	
25.00	0.000	296.140	25.00	0.00	0.00	0.00	40°07'57.702"N	104°39'58.628"W	0.00	
164.00	0.510	296.140	164.00	-0.28	0.27	-0.56	40°07'57.705"N	104°39'58.635"W	0.37	BEGIN MWD SURVEYS
253.00	0.090	51.830	253.00	-0.50	0.49	-0.86	40°07'57.707"N	104°39'58.639"W	0.62	
345.00	1.170	57.330	344.99	-1.04	1.04	-0.01	40°07'57.712"N	104°39'58.628"W	1.17	
435.00	1.700	63.290	434.96	-2.11	2.14	1.96	40°07'57.723"N	104°39'58.603"W	0.61	
525.00	2.240	66.590	524.91	-3.37	3.44	4.76	40°07'57.736"N	104°39'58.567"W	0.61	
615.00	3.440	74.800	614.80	-4.71	4.84	8.98	40°07'57.750"N	104°39'58.512"W	1.40	
705.00	5.000	77.850	704.55	-6.15	6.38	15.42	40°07'57.765"N	104°39'58.429"W	1.75	
795.00	6.600	78.880	794.09	-7.85	8.20	24.33	40°07'57.783"N	104°39'58.315"W	1.78	
885.00	7.930	77.150	883.36	-10.07	10.58	35.46	40°07'57.807"N	104°39'58.171"W	1.50	
975.00	8.990	76.940	972.38	-12.85	13.55	48.37	40°07'57.836"N	104°39'58.005"W	1.18	
1066.00	10.030	75.160	1062.13	-16.28	17.18	62.95	40°07'57.872"N	104°39'57.818"W	1.19	
1156.00	10.560	77.150	1150.68	-19.90	21.03	78.57	40°07'57.910"N	104°39'57.616"W	0.71	
1246.00	10.440	75.070	1239.17	-23.60	24.96	94.49	40°07'57.949"N	104°39'57.412"W	0.44	
1336.00	10.930	76.730	1327.61	-27.43	29.02	110.67	40°07'57.989"N	104°39'57.203"W	0.64	
1426.00	11.780	78.660	1415.85	-30.94	32.79	127.98	40°07'58.026"N	104°39'56.980"W	1.03	
1516.00	11.930	77.580	1503.93	-34.49	36.59	146.08	40°07'58.064"N	104°39'56.747"W	0.30	
1606.00	11.770	79.610	1592.01	-37.89	40.25	164.19	40°07'58.100"N	104°39'56.514"W	0.50	
1696.00	11.750	77.920	1680.12	-41.20	43.82	182.18	40°07'58.135"N	104°39'56.283"W	0.38	
1786.00	11.300	80.770	1768.31	-44.28	47.15	199.84	40°07'58.168"N	104°39'56.055"W	0.81	
1856.00	10.830	80.800	1837.01	-46.24	49.31	213.11	40°07'58.189"N	104°39'55.884"W	0.67	TIED-ONTO MWD SURVEYS
1942.00	10.390	80.670	1921.54	-48.56	51.85	228.73	40°07'58.214"N	104°39'55.683"W	0.51	FIRST BHI MWD+IFR+SC SURVEYS
2037.00	10.360	78.960	2014.99	-51.34	54.88	245.57	40°07'58.244"N	104°39'55.466"W	0.33	
2131.00	9.170	73.290	2107.62	-54.89	58.65	261.04	40°07'58.282"N	104°39'55.267"W	1.63	
2226.00	7.240	76.750	2201.65	-58.26	62.20	274.12	40°07'58.317"N	104°39'55.099"W	2.10	
2320.00	5.520	82.480	2295.06	-60.06	64.15	284.37	40°07'58.336"N	104°39'54.967"W	1.95	
2415.00	5.560	78.310	2389.62	-61.46	65.68	293.40	40°07'58.351"N	104°39'54.851"W	0.43	
2509.00	3.580	91.220	2483.32	-62.21	66.54	300.80	40°07'58.360"N	104°39'54.755"W	2.36	
2604.00	2.180	111.440	2578.20	-61.42	65.82	305.45	40°07'58.352"N	104°39'54.695"W	1.80	
2698.00	0.060	56.090	2672.18	-60.77	65.19	307.15	40°07'58.346"N	104°39'54.674"W	2.28	
2793.00	0.290	44.730	2767.18	-60.97	65.39	307.36	40°07'58.348"N	104°39'54.671"W	0.24	
2887.00	0.390	27.710	2861.17	-61.41	65.84	307.68	40°07'58.353"N	104°39'54.667"W	0.15	
2982.00	0.430	18.820	2956.17	-62.03	66.47	307.94	40°07'58.359"N	104°39'54.663"W	0.08	
3076.00	0.510	29.410	3050.17	-62.73	67.16	308.26	40°07'58.366"N	104°39'54.659"W	0.13	
3171.00	0.600	27.710	3145.16	-63.53	67.97	308.70	40°07'58.374"N	104°39'54.654"W	0.10	
3265.00	0.710	38.320	3239.16	-64.41	68.87	309.29	40°07'58.383"N	104°39'54.646"W	0.17	
3359.00	0.620	26.760	3333.15	-65.32	69.78	309.88	40°07'58.392"N	104°39'54.638"W	0.17	
3454.00	0.610	18.200	3428.15	-66.25	70.72	310.27	40°07'58.401"N	104°39'54.633"W	0.10	
3549.00	0.860	20.160	3523.14	-67.39	71.87	310.68	40°07'58.412"N	104°39'54.628"W	0.26	
3643.00	1.140	255.660	3617.13	-67.83	72.30	310.01	40°07'58.416"N	104°39'54.637"W	1.89	
3738.00	1.180	253.390	3712.11	-67.35	71.78	308.16	40°07'58.411"N	104°39'54.661"W	0.06	
3832.00	1.360	237.360	3806.09	-66.50	70.90	306.29	40°07'58.403"N	104°39'54.685"W	0.42	
3926.00	1.090	230.370	3900.07	-65.35	69.73	304.66	40°07'58.391"N	104°39'54.706"W	0.33	
4021.00	0.950	231.080	3995.05	-64.29	68.66	303.36	40°07'58.380"N	104°39'54.722"W	0.15	

Actual Wellpath Report

COOK 37N-28HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16)
Area	COLORADO	Well	COOK 37N-28HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	COOK 37N-28HZ AWB <17885>
Facility	SEC.16-T2N-R65W		

WELLPATH DATA (187 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4116.00	0.850	214.400	4090.04	-63.23	67.58	302.34	40°07'58.370"N	104°39'54.735"W	0.29	
4210.00	0.620	218.240	4184.03	-62.27	66.61	301.64	40°07'58.360"N	104°39'54.745"W	0.25	
4304.00	0.710	209.150	4278.03	-61.37	65.70	301.04	40°07'58.351"N	104°39'54.752"W	0.15	
4399.00	0.280	207.150	4373.02	-60.65	64.98	300.65	40°07'58.344"N	104°39'54.757"W	0.45	
4493.00	0.200	142.250	4467.02	-60.32	64.65	300.64	40°07'58.341"N	104°39'54.757"W	0.28	
4588.00	0.220	150.820	4562.02	-60.03	64.36	300.83	40°07'58.338"N	104°39'54.755"W	0.04	
4966.00	0.400	54.600	4940.02	-60.14	64.49	302.26	40°07'58.339"N	104°39'54.737"W	0.13	
5344.00	2.030	38.670	5317.92	-66.05	70.48	307.52	40°07'58.398"N	104°39'54.669"W	0.44	
5438.00	0.630	16.350	5411.89	-67.83	72.28	308.71	40°07'58.416"N	104°39'54.654"W	1.56	
5627.00	0.360	47.720	5600.89	-69.22	73.67	309.44	40°07'58.430"N	104°39'54.644"W	0.20	
5816.00	0.520	156.250	5789.88	-68.82	73.29	310.22	40°07'58.426"N	104°39'54.634"W	0.38	
6099.00	0.780	234.360	6072.87	-66.54	70.99	309.17	40°07'58.403"N	104°39'54.648"W	0.30	
6288.00	0.710	256.540	6261.85	-65.55	69.97	306.99	40°07'58.393"N	104°39'54.676"W	0.16	
6383.00	0.670	185.840	6356.85	-64.87	69.28	306.36	40°07'58.387"N	104°39'54.684"W	0.84	
6477.00	2.730	206.120	6450.80	-62.33	66.72	305.32	40°07'58.361"N	104°39'54.697"W	2.25	FIRST BHI MWD+IFR+MSA SURVEYS
6571.00	16.370	194.360	6543.28	-47.47	51.81	301.03	40°07'58.214"N	104°39'54.752"W	14.58	
6665.00	25.620	192.850	6630.95	-14.87	19.09	293.21	40°07'57.891"N	104°39'54.853"W	9.86	
6760.00	31.260	188.130	6714.46	29.47	-25.38	285.14	40°07'57.451"N	104°39'54.957"W	6.39	
6854.00	34.740	183.200	6793.30	80.31	-76.29	280.20	40°07'56.948"N	104°39'55.021"W	4.67	
6948.00†	40.400	181.684	6867.78	137.51	-133.53	277.81	40°07'56.382"N	104°39'55.051"W	6.10	SSPG
6949.00	40.460	181.670	6868.54	138.15	-134.18	277.79	40°07'56.376"N	104°39'55.052"W	6.10	
7033.00†	48.415	177.632	6928.48	196.89	-192.91	278.29	40°07'55.796"N	104°39'55.045"W	10.05	NBRR
7043.00	49.370	177.220	6935.05	204.42	-200.44	278.63	40°07'55.721"N	104°39'55.041"W	10.05	
7134.00†	55.682	175.913	6990.39	276.53	-272.49	282.99	40°07'55.009"N	104°39'54.985"W	7.03	N470_B_CK
7138.00	55.960	175.860	6992.64	279.83	-275.79	283.22	40°07'54.977"N	104°39'54.982"W	7.03	
7232.00	62.540	177.910	7040.68	360.50	-356.41	287.56	40°07'54.180"N	104°39'54.926"W	7.25	
7305.00†	67.893	182.390	7071.28	426.72	-422.64	287.33	40°07'53.525"N	104°39'54.929"W	9.21	N700_C_CK
7327.00	69.530	183.670	7079.27	447.17	-443.10	286.25	40°07'53.323"N	104°39'54.943"W	9.21	
7421.00	86.470	182.310	7098.74	538.58	-534.59	281.50	40°07'52.419"N	104°39'55.004"W	18.08	
7436.00†	86.645	182.106	7099.64	553.53	-549.55	280.93	40°07'52.271"N	104°39'55.011"W	1.79	LANDING POINT
7516.00	87.580	181.020	7103.67	633.36	-629.42	278.75	40°07'51.482"N	104°39'55.039"W	1.79	
7610.00	88.820	180.260	7106.62	727.28	-723.36	277.70	40°07'50.554"N	104°39'55.053"W	1.55	
7705.00	88.880	180.680	7108.53	822.24	-818.34	276.92	40°07'49.615"N	104°39'55.063"W	0.45	
7799.00	89.840	180.000	7109.58	916.21	-912.33	276.36	40°07'48.686"N	104°39'55.070"W	1.25	
7894.00	89.990	180.270	7109.72	1011.20	-1007.33	276.14	40°07'47.747"N	104°39'55.073"W	0.33	
7988.00	90.980	179.920	7108.93	1105.18	-1101.33	275.98	40°07'46.819"N	104°39'55.075"W	1.12	
8083.00	90.420	179.030	7107.77	1200.17	-1196.31	276.85	40°07'45.880"N	104°39'55.064"W	1.11	
8177.00	90.890	178.710	7106.69	1294.16	-1290.29	278.71	40°07'44.951"N	104°39'55.040"W	0.60	
8272.00	89.040	178.570	7106.75	1389.15	-1385.26	280.96	40°07'44.013"N	104°39'55.011"W	1.95	
8366.00	89.040	178.660	7108.32	1483.14	-1479.22	283.23	40°07'43.084"N	104°39'54.982"W	0.10	
8460.00	89.440	179.060	7109.57	1577.13	-1573.19	285.10	40°07'42.156"N	104°39'54.958"W	0.60	
8555.00	89.940	179.410	7110.08	1672.12	-1668.18	286.37	40°07'41.217"N	104°39'54.941"W	0.64	
8649.00	90.550	179.480	7109.68	1766.12	-1762.17	287.28	40°07'40.288"N	104°39'54.930"W	0.65	
8744.00	91.360	179.450	7108.10	1861.11	-1857.16	288.17	40°07'39.349"N	104°39'54.918"W	0.85	
8838.00	90.370	178.330	7106.68	1955.09	-1951.13	289.99	40°07'38.421"N	104°39'54.895"W	1.59	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16)
Area	COLORADO	Well	COOK 37N-28HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	COOK 37N-28HZ AWP <17885>
Facility	SEC.16-T2N-R65W		

WELLPATH DATA (187 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8933.00	89.140	178.700	7107.09	2050.08	-2046.09	292.45	40°07'37.482"N	104°39'54.863"W	1.35	
9027.00	89.690	178.270	7108.05	2144.07	-2140.05	294.94	40°07'36.554"N	104°39'54.831"W	0.74	
9122.00	91.020	178.490	7107.46	2239.06	-2235.01	297.62	40°07'35.615"N	104°39'54.797"W	1.42	
9216.00	89.660	178.480	7106.90	2333.05	-2328.97	300.11	40°07'34.687"N	104°39'54.765"W	1.45	
9311.00	90.280	178.790	7106.95	2428.04	-2423.95	302.37	40°07'33.748"N	104°39'54.735"W	0.73	
9405.00	88.490	179.460	7107.96	2522.03	-2517.93	303.81	40°07'32.820"N	104°39'54.717"W	2.03	
9500.00	89.110	179.950	7109.95	2617.01	-2612.90	304.29	40°07'31.881"N	104°39'54.711"W	0.83	
9594.00	89.820	179.870	7110.83	2710.99	-2706.90	304.44	40°07'30.952"N	104°39'54.709"W	0.76	
9688.00	89.720	179.950	7111.20	2804.98	-2800.90	304.59	40°07'30.023"N	104°39'54.707"W	0.14	
9783.00	90.160	180.140	7111.30	2899.97	-2895.90	304.52	40°07'29.084"N	104°39'54.708"W	0.50	
9878.00	90.460	180.040	7110.79	2994.96	-2990.90	304.37	40°07'28.146"N	104°39'54.710"W	0.33	
9972.00	91.450	180.040	7109.22	3088.94	-3084.88	304.30	40°07'27.217"N	104°39'54.711"W	1.05	
10067.00	93.020	178.120	7105.52	3183.86	-3179.79	305.82	40°07'26.279"N	104°39'54.691"W	2.61	
10161.00	91.850	176.520	7101.52	3277.72	-3273.60	310.22	40°07'25.352"N	104°39'54.635"W	2.11	
10255.00	87.410	177.450	7102.13	3371.62	-3367.44	315.16	40°07'24.425"N	104°39'54.571"W	4.83	
10350.00	87.530	177.410	7106.32	3466.48	-3462.25	319.41	40°07'23.488"N	104°39'54.516"W	0.13	
10444.00	88.730	177.120	7109.39	3560.38	-3556.09	323.90	40°07'22.560"N	104°39'54.459"W	1.31	
10539.00	88.980	177.590	7111.29	3655.31	-3650.97	328.28	40°07'21.623"N	104°39'54.402"W	0.56	
10633.00	91.170	179.120	7111.17	3749.29	-3744.93	330.98	40°07'20.694"N	104°39'54.367"W	2.84	
10728.00	91.600	178.810	7108.87	3844.27	-3839.88	332.69	40°07'19.756"N	104°39'54.345"W	0.56	
10822.00	90.430	177.850	7107.20	3938.24	-3933.82	335.43	40°07'18.828"N	104°39'54.310"W	1.61	
10917.00	90.550	177.730	7106.39	4033.21	-4028.75	339.10	40°07'17.889"N	104°39'54.263"W	0.18	
11011.00	90.640	177.550	7105.42	4127.17	-4122.67	342.97	40°07'16.961"N	104°39'54.213"W	0.21	
11105.00	90.890	177.750	7104.16	4221.13	-4216.58	346.82	40°07'16.033"N	104°39'54.164"W	0.34	
11200.00	90.580	179.950	7102.94	4316.11	-4311.54	348.73	40°07'15.095"N	104°39'54.139"W	2.34	
11294.00	91.660	180.140	7101.10	4410.08	-4405.53	348.65	40°07'14.166"N	104°39'54.140"W	1.17	
11389.00	89.350	179.730	7100.27	4505.06	-4500.51	348.76	40°07'13.227"N	104°39'54.139"W	2.47	
11483.00	89.560	179.800	7101.16	4599.05	-4594.51	349.15	40°07'12.299"N	104°39'54.134"W	0.24	
11578.00	90.030	179.260	7101.50	4694.05	-4689.51	349.93	40°07'11.360"N	104°39'54.124"W	0.75	
11672.00	88.240	177.800	7102.92	4788.03	-4783.46	352.34	40°07'10.431"N	104°39'54.093"W	2.46	
11767.00	88.580	177.170	7105.56	4882.95	-4878.33	356.50	40°07'09.494"N	104°39'54.039"W	0.75	
11861.00	88.610	177.730	7107.86	4976.88	-4972.21	360.68	40°07'08.566"N	104°39'53.985"W	0.60	
11956.00	88.980	180.140	7109.86	5071.85	-5067.16	362.45	40°07'07.628"N	104°39'53.963"W	2.57	
12050.00	89.560	179.770	7111.06	5165.83	-5161.15	362.52	40°07'06.699"N	104°39'53.962"W	0.73	
12145.00	90.120	179.760	7111.32	5260.83	-5256.15	362.91	40°07'05.760"N	104°39'53.957"W	0.59	
12239.00	90.760	179.690	7110.60	5354.82	-5350.15	363.36	40°07'04.831"N	104°39'53.951"W	0.68	
12334.00	90.860	179.800	7109.26	5449.80	-5445.14	363.79	40°07'03.893"N	104°39'53.945"W	0.16	
12428.00	91.290	179.280	7107.49	5543.78	-5539.12	364.54	40°07'02.964"N	104°39'53.936"W	0.72	
12522.00	88.640	178.760	7107.55	5637.78	-5633.10	366.15	40°07'02.035"N	104°39'53.915"W	2.87	
12617.00	88.580	178.370	7109.86	5732.74	-5728.04	368.53	40°07'01.097"N	104°39'53.884"W	0.42	
12711.00	89.190	179.070	7111.69	5826.72	-5822.00	370.63	40°07'00.168"N	104°39'53.857"W	0.99	
12806.00	89.840	180.330	7112.49	5921.71	-5916.99	371.12	40°06'59.230"N	104°39'53.851"W	1.49	
12900.00	90.270	180.060	7112.40	6015.69	-6010.99	370.80	40°06'58.301"N	104°39'53.855"W	0.54	
12995.00	91.170	179.680	7111.21	6110.68	-6105.98	371.02	40°06'57.362"N	104°39'53.852"W	1.03	
13089.00	90.120	180.790	7110.15	6204.65	-6199.97	370.63	40°06'56.433"N	104°39'53.857"W	1.63	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 COOK 37N-28HZ (455°FSL & 1875°FEL, SEC.16)
Area	COLORADO	Well	COOK 37N-28HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	COOK 37N-28HZ AWP <17885>
Facility	SEC.16-T2N-R65W		

WELLPATH DATA (187 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13184.00	90.700	180.110	7109.47	6299.63	-6294.96	369.89	40°06'55.494"N	104°39'53.867"W	0.94	
13278.00	91.690	179.830	7107.51	6393.60	-6388.94	369.94	40°06'54.566"N	104°39'53.866"W	1.09	
13404.00	91.020	179.890	7104.53	6519.55	-6514.90	370.24	40°06'53.321"N	104°39'53.862"W	0.53	
13498.00	91.200	178.670	7102.71	6613.53	-6608.88	371.43	40°06'52.392"N	104°39'53.847"W	1.31	
13593.00	90.950	180.520	7100.92	6708.51	-6703.85	372.10	40°06'51.454"N	104°39'53.839"W	1.96	
13687.00	91.140	179.520	7099.21	6802.48	-6797.84	372.06	40°06'50.525"N	104°39'53.839"W	1.08	
13782.00	91.050	180.630	7097.39	6897.45	-6892.82	371.94	40°06'49.586"N	104°39'53.841"W	1.17	
13876.00	90.250	180.690	7096.33	6991.41	-6986.81	370.86	40°06'48.658"N	104°39'53.855"W	0.85	
13971.00	90.460	180.500	7095.74	7086.38	-7081.80	369.87	40°06'47.719"N	104°39'53.867"W	0.30	
14065.00	90.310	182.640	7095.11	7180.29	-7175.76	367.30	40°06'46.790"N	104°39'53.901"W	2.28	
14159.00	89.940	178.370	7094.90	7274.25	-7269.73	366.47	40°06'45.862"N	104°39'53.911"W	4.56	
14254.00	90.120	176.210	7094.85	7369.19	-7364.62	370.96	40°06'44.924"N	104°39'53.853"W	2.28	
14348.00	90.060	177.230	7094.70	7463.10	-7458.46	376.34	40°06'43.997"N	104°39'53.784"W	1.09	
14443.00	89.970	178.640	7094.68	7558.08	-7553.40	379.76	40°06'43.058"N	104°39'53.740"W	1.49	
14537.00	90.120	179.400	7094.61	7652.07	-7647.38	381.37	40°06'42.130"N	104°39'53.719"W	0.82	
14632.00	90.090	180.560	7094.43	7747.06	-7742.38	381.40	40°06'41.191"N	104°39'53.719"W	1.22	
14726.00	90.030	181.220	7094.33	7841.02	-7836.37	379.94	40°06'40.262"N	104°39'53.738"W	0.71	
14821.00	90.310	181.060	7094.05	7935.96	-7931.35	378.05	40°06'39.323"N	104°39'53.762"W	0.34	
14915.00	90.030	180.810	7093.77	8029.92	-8025.34	376.52	40°06'38.395"N	104°39'53.782"W	0.40	
15010.00	90.190	181.090	7093.59	8124.87	-8120.32	374.94	40°06'37.456"N	104°39'53.802"W	0.34	
15104.00	90.000	181.230	7093.43	8218.82	-8214.30	373.04	40°06'36.527"N	104°39'53.827"W	0.25	
15198.00	89.880	181.220	7093.53	8312.76	-8308.28	371.03	40°06'35.599"N	104°39'53.853"W	0.13	
15293.00	89.910	180.600	7093.71	8407.71	-8403.27	369.52	40°06'34.660"N	104°39'53.872"W	0.65	
15387.00	92.070	180.570	7092.08	8501.66	-8497.25	368.56	40°06'33.731"N	104°39'53.884"W	2.30	
15482.00	89.600	179.120	7090.70	8596.64	-8592.23	368.82	40°06'32.793"N	104°39'53.881"W	3.01	
15576.00	89.630	178.960	7091.33	8690.64	-8686.21	370.39	40°06'31.864"N	104°39'53.861"W	0.17	
15671.00	89.700	179.680	7091.89	8785.63	-8781.20	371.52	40°06'30.925"N	104°39'53.846"W	0.76	
15765.00	89.880	179.490	7092.23	8879.63	-8875.20	372.20	40°06'29.996"N	104°39'53.838"W	0.28	
15860.00	89.670	177.550	7092.60	8974.62	-8970.16	374.65	40°06'29.058"N	104°39'53.806"W	2.05	
15954.00	89.790	177.040	7093.05	9068.57	-9064.06	379.09	40°06'28.130"N	104°39'53.749"W	0.56	
16049.00	89.600	177.080	7093.55	9163.50	-9158.93	383.96	40°06'27.192"N	104°39'53.686"W	0.20	
16143.00	89.630	178.290	7094.18	9257.46	-9252.85	387.76	40°06'26.264"N	104°39'53.637"W	1.29	
16238.00	89.660	178.200	7094.77	9352.45	-9347.80	390.67	40°06'25.326"N	104°39'53.600"W	0.10	
16332.00	89.880	177.930	7095.15	9446.43	-9441.75	393.84	40°06'24.398"N	104°39'53.559"W	0.37	
16427.00	90.560	177.010	7094.78	9541.39	-9536.65	398.04	40°06'23.460"N	104°39'53.505"W	1.20	
16521.00	90.100	177.980	7094.24	9635.34	-9630.56	402.15	40°06'22.532"N	104°39'53.452"W	1.14	
16616.00	90.190	178.730	7094.00	9730.33	-9725.52	404.87	40°06'21.593"N	104°39'53.417"W	0.80	
16710.00	89.970	177.850	7093.87	9824.32	-9819.48	407.68	40°06'20.665"N	104°39'53.381"W	0.96	
16805.00	89.790	177.060	7094.07	9919.28	-9914.38	411.90	40°06'19.727"N	104°39'53.327"W	0.85	
16899.00	89.790	176.770	7094.42	10013.20	-10008.24	416.95	40°06'18.799"N	104°39'53.262"W	0.31	
16993.00	89.790	176.380	7094.76	10107.11	-10102.08	422.57	40°06'17.872"N	104°39'53.190"W	0.41	
17088.00	89.880	177.330	7095.03	10202.03	-10196.93	427.78	40°06'16.935"N	104°39'53.123"W	1.00	
17182.00	89.640	177.400	7095.43	10295.98	-10290.83	432.10	40°06'16.007"N	104°39'53.067"W	0.27	
17277.00	89.760	178.360	7095.92	10390.95	-10385.76	435.62	40°06'15.069"N	104°39'53.022"W	1.02	
17371.00	89.880	178.610	7096.22	10484.94	-10479.73	438.10	40°06'14.140"N	104°39'52.990"W	0.30	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16)
Area	COLORADO	Well	COOK 37N-28HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	COOK 37N-28HZ AWB <17885>
Facility	SEC.16-T2N-R65W		

WELLPATH DATA (187 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
17466.00	89.790	178.570	7096.49	10579.94	-10574.70	440.44	40°06'13.202"N	104°39'52.960"W	0.10	
17560.00	89.700	178.400	7096.91	10673.93	-10668.67	442.93	40°06'12.273"N	104°39'52.928"W	0.20	
17655.00	89.820	177.830	7097.31	10768.91	-10763.61	446.05	40°06'11.335"N	104°39'52.888"W	0.61	
17749.00	90.040	177.810	7097.42	10862.89	-10857.55	449.63	40°06'10.406"N	104°39'52.842"W	0.24	
17844.00	89.820	177.640	7097.54	10957.86	-10952.47	453.40	40°06'09.468"N	104°39'52.793"W	0.29	
17861.00	89.910	177.860	7097.58	10974.85	-10969.46	454.06	40°06'09.300"N	104°39'52.785"W	1.40	LAST BHI MWD+IFR+MSA SURVEYS
17885.00	89.910	177.860	7097.62	10998.84	-10993.44	454.96	40°06'09.063"N	104°39'52.773"W	0.00	PROJECTION TO BIT

HOLE & CASING SECTIONS - Ref Wellbore: COOK 37N-28HZ AWB <17885> Ref Wellpath: COOK 37N-28HZ AWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.5in Open Hole	25.00	1921.00	1896.00	25.00	1900.89	0.00	0.00	51.24	224.98
9.625in Casing Surface	25.00	1910.00	1885.00	25.00	1890.07	0.00	0.00	50.91	222.99
8.5in Open Hole	1921.00	17885.00	15964.00	1900.89	7097.62	51.24	224.98	-10993.44	454.96

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.16-T2N-R65W SECTION LINES	0.00	119.44	1177.82	1734869.55	14575352.54	40°07'58.882"N	104°39'43.464"W	polygon
SEC.21-T2N-R65W SECTION LINES	0.00	119.44	1177.82	1734869.55	14575352.54	40°07'58.882"N	104°39'43.464"W	polygon
SEC.28-T2N-R65W SECTION LINES	0.00	119.44	1177.82	1734869.55	14575352.54	40°07'58.882"N	104°39'43.464"W	polygon
COOK 37N-28HZ HEEL (114'FNL & 1572'FEL, SEC.21)	7088.00	-571.64	305.88	1734000.55	14574658.47	40°07'52.053"N	104°39'54.690"W	point
COOK 37N-28HZ BHL ON PLAT (46'FSL & 1511'FEL, SEC.28)	7104.00	-11025.77	456.13	1734189.97	14564209.07	40°06'08.744"N	104°39'52.758"W	point
COOK 37N-28HZ LANDBOX	7107.00	0.00	0.00	1733692.65	14575228.73	40°07'57.702"N	104°39'58.628"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: COOK 37N-28HZ AWB <17885> Ref Wellpath: COOK 37N-28HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	1856.00	Custom APC_ISCWSA REV 2 MWD	SDI MWD SURVEYS 13.5" <164-1856>	COOK 37N-28HZ AWB <17885>
1856.00	6383.00	Custom APC_ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHI MWD (IFR+SC) 8.5" HOLE <1942-6383>	COOK 37N-28HZ AWB <17885>
6383.00	17861.00	Custom APC_ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHI MWD (IFR+MSA) 8.5" HOLE <6477-17861>	COOK 37N-28HZ AWB <17885>
17861.00	17885.00	Blind Drilling (std)	Projection to bit	COOK 37N-28HZ AWB <17885>

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#12 COOK 37N-28HZ (455'FSL & 1875'FEL, SEC.16)
Area	COLORADO	Well	COOK 37N-28HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	COOK 37N-28HZ AWP <17885>
Facility	SEC.16-T2N-R65W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
164.00	0.510	296.140	164.00	BEGIN MWD SURVEYS
1856.00	10.830	80.800	1837.01	TIED-ONTO MWD SURVEYS
1942.00	10.390	80.670	1921.54	FIRST BHI MWD+IFR+SC SURVEYS
6477.00	2.730	206.120	6450.80	FIRST BHI MWD+IFR+MSA SURVEYS
6948.00	40.400	181.684	6867.78	SSPG
7033.00	48.415	177.632	6928.48	NBRR
7134.00	55.682	175.913	6990.39	N470_B_CK
7305.00	67.893	182.390	7071.28	N700_C_CK
7436.00	86.645	182.106	7099.64	LANDING POINT
17861.00	89.910	177.860	7097.58	LAST BHI MWD+IFR+MSA SURVEYS
17885.00	89.910	177.860	7097.62	PROJECTION TO BIT