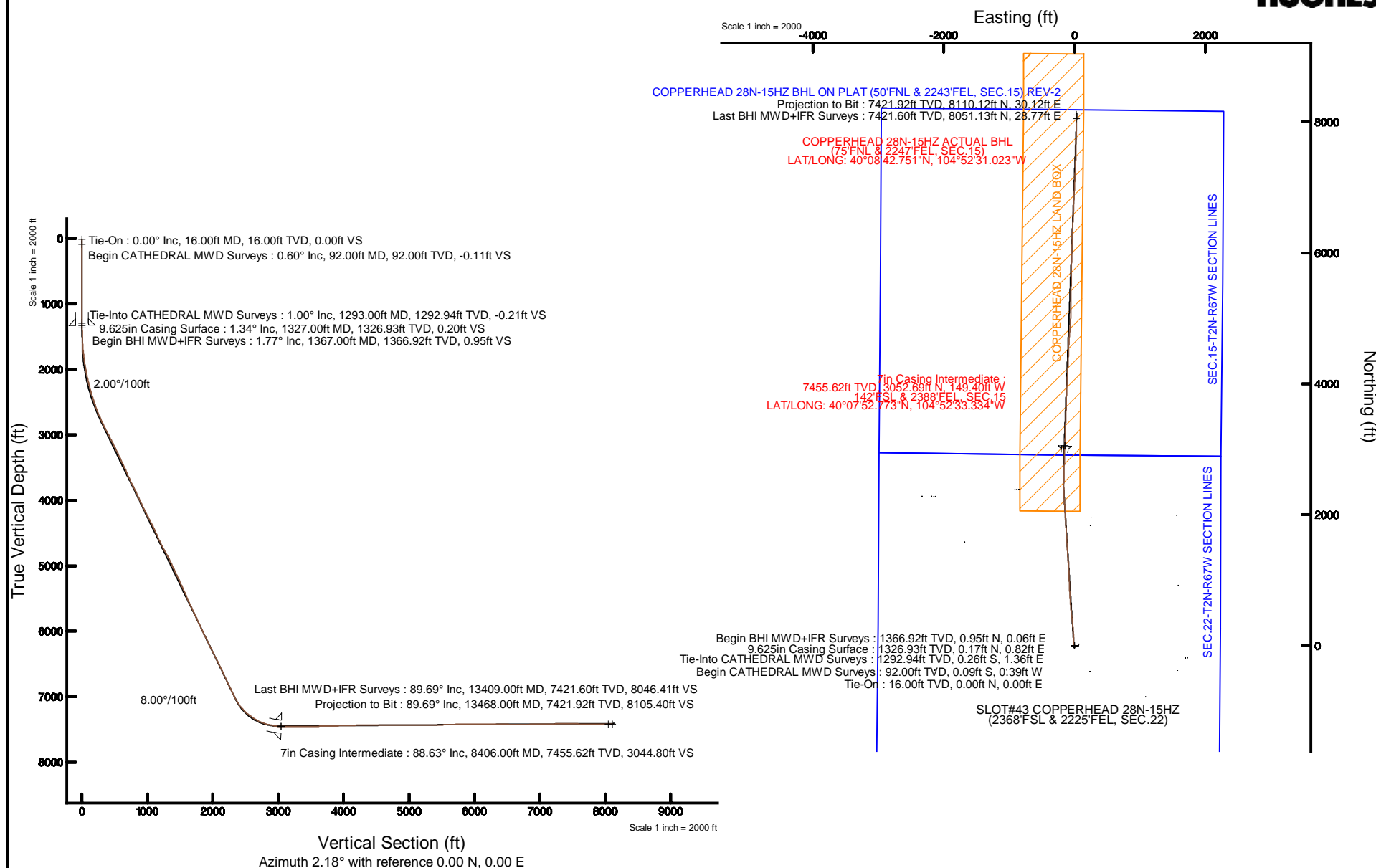


KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#43 COPPERHEAD 28N-15HZ (2368'FSL & 2225'FEL, SEC.22)
 Field: WELD COUNTY (KERR MCGEE) Well: COPPERHEAD 28N-15HZ
 Facility: SEC.22-T2N-R67W Wellbore: COPPERHEAD 28N-15HZ PWB



Plot reference wellpath is COPPERHEAD 28N-15HZ (REV-B.0) PWP	
True vertical depths are referenced to XTREME 20 (16'KB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to XTREME 20 (16'KB) (RKB)	North Reference: True north
XTREME 20 (16'KB) (RKB) to Mean Sea Level: 5045 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot SLOT#43 COPPERHEAD 28N-15HZ (2368'FSL & 2225'FEL, SEC.22)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: precin on 3/4/2015



Actual Wellpath Report

COPPERHEAD 28N-15HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#43 COPPERHEAD 28N-15HZ (2368'FSL & 2225'FEL, SEC.22)
Area	COLORADO	Well	COPPERHEAD 28N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COPPERHEAD 28N-15HZ AWB <92-13468>
Facility	SEC.22-T2N-R67W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.1.1
North Reference	True	User	Precain
Scale	0.999959	Report Generated	3/4/2015 at 10:43:11 AM
Convergence at slot	0.40° East	Database/Source file	WellArchitectDB/COPPERHEAD_28N-15HZ_AWB_92-13468_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-2387.94	882.33	3174669.28	1288248.36	40°07'22.606"N	104°52'31.411"W
Facility Reference Pt			3173770.27	1290629.95	40°07'46.204"N	104°52'42.769"W
Field Reference Pt			3197771.84	1268891.29	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM

Calculation method	Minimum curvature	XTREME 20 (16'KB) (RKB) to Facility Vertical Datum	5045.00ft
Horizontal Reference Pt	Slot	XTREME 20 (16'KB) (RKB) to Mean Sea Level	5045.00ft
Vertical Reference Pt	XTREME 20 (16'KB) (RKB)	XTREME 20 (16'KB) (RKB) to Mud Line at Slot (SLOT#43 COPPERHEAD 28N-15HZ (2368'FSL & 2225'FEL, SEC.22))	5045.00ft
MD Reference Pt	XTREME 20 (16'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	2.18°

Actual Wellpath Report

COPPERHEAD 28N-15HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#43 COPPERHEAD 28N-15HZ (2368'FSL & 2225'FEL, SEC.22)
Area	COLORADO	Well	COPPERHEAD 28N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COPPERHEAD 28N-15HZ AWB <92-13468>
Facility	SEC.22-T2N-R67W		

WELLPATH DATA (149 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	256.300	0.00	0.00	0.00	0.00	40°07'22.606"N	104°52'31.411"W	0.00	
16.00	0.000	256.300	16.00	0.00	0.00	0.00	40°07'22.606"N	104°52'31.411"W	0.00	Tie-On
92.00	0.600	256.300	92.00	-0.11	-0.09	-0.39	40°07'22.605"N	104°52'31.416"W	0.79	Begin CATHEDRAL MWD Surveys
161.00	0.500	266.000	161.00	-0.24	-0.20	-1.04	40°07'22.604"N	104°52'31.424"W	0.20	
237.00	0.200	230.800	236.99	-0.36	-0.31	-1.47	40°07'22.603"N	104°52'31.430"W	0.47	
318.00	0.300	265.300	317.99	-0.48	-0.41	-1.79	40°07'22.602"N	104°52'31.434"W	0.22	
398.00	0.400	167.400	397.99	-0.78	-0.70	-1.94	40°07'22.599"N	104°52'31.436"W	0.66	
478.00	0.400	150.600	477.99	-1.29	-1.22	-1.74	40°07'22.594"N	104°52'31.433"W	0.15	
558.00	0.400	158.600	557.99	-1.78	-1.72	-1.50	40°07'22.589"N	104°52'31.430"W	0.07	
638.00	0.400	108.200	637.99	-2.11	-2.07	-1.14	40°07'22.586"N	104°52'31.426"W	0.43	
718.00	0.600	79.000	717.98	-2.09	-2.08	-0.46	40°07'22.585"N	104°52'31.417"W	0.40	
798.00	0.800	86.500	797.98	-1.94	-1.96	0.51	40°07'22.587"N	104°52'31.404"W	0.27	
878.00	0.600	87.800	877.97	-1.86	-1.91	1.48	40°07'22.587"N	104°52'31.392"W	0.25	
958.00	0.500	102.700	957.97	-1.89	-1.97	2.24	40°07'22.586"N	104°52'31.382"W	0.22	
1038.00	0.600	93.400	1037.96	-1.96	-2.08	3.00	40°07'22.585"N	104°52'31.372"W	0.17	
1118.00	0.300	348.100	1117.96	-1.77	-1.90	3.38	40°07'22.587"N	104°52'31.368"W	0.92	
1198.00	1.000	308.000	1197.96	-1.15	-1.26	2.78	40°07'22.594"N	104°52'31.375"W	0.99	
1278.00	1.100	303.300	1277.94	-0.35	-0.41	1.59	40°07'22.602"N	104°52'31.391"W	0.16	
1293.00	1.000	303.200	1292.94	-0.21	-0.26	1.36	40°07'22.603"N	104°52'31.393"W	0.67	Tie-Into CATHEDRAL MWD Surveys
1367.00	1.770	318.240	1366.92	0.95	0.95	0.06	40°07'22.615"N	104°52'31.410"W	1.14	Begin BHI MWD+IFR Surveys
1461.00	1.850	299.780	1460.87	2.70	2.78	-2.22	40°07'22.634"N	104°52'31.440"W	0.62	
1556.00	3.770	320.260	1555.76	5.73	5.95	-5.55	40°07'22.665"N	104°52'31.482"W	2.25	
1648.00	5.460	325.910	1647.46	11.51	11.90	-9.94	40°07'22.724"N	104°52'31.539"W	1.90	
1739.00	6.130	345.480	1738.00	19.66	20.19	-13.58	40°07'22.806"N	104°52'31.586"W	2.28	
1831.00	6.920	1.260	1829.41	29.90	30.49	-14.69	40°07'22.907"N	104°52'31.600"W	2.12	
1923.00	9.110	4.780	1920.51	42.72	43.29	-13.96	40°07'23.034"N	104°52'31.591"W	2.44	
2014.00	10.830	3.570	2010.13	58.47	59.00	-12.83	40°07'23.189"N	104°52'31.576"W	1.90	
2105.00	11.900	357.980	2099.35	76.37	76.91	-12.63	40°07'23.366"N	104°52'31.574"W	1.69	
2197.00	13.000	356.740	2189.18	96.13	96.72	-13.55	40°07'23.562"N	104°52'31.585"W	1.23	
2288.00	14.600	354.710	2277.55	117.70	118.36	-15.19	40°07'23.776"N	104°52'31.607"W	1.84	
2379.00	16.370	358.170	2365.25	141.86	142.60	-16.66	40°07'24.015"N	104°52'31.625"W	2.19	
2471.00	18.510	354.900	2453.01	169.29	170.11	-18.37	40°07'24.287"N	104°52'31.647"W	2.56	
2562.00	19.280	359.210	2539.11	198.62	199.52	-19.86	40°07'24.578"N	104°52'31.667"W	1.75	
2654.00	21.320	357.270	2625.40	230.45	231.42	-20.87	40°07'24.893"N	104°52'31.680"W	2.33	
2745.00	23.230	353.450	2709.61	264.68	265.77	-23.70	40°07'25.232"N	104°52'31.716"W	2.63	
2836.00	24.540	354.520	2792.81	301.15	302.42	-27.56	40°07'25.595"N	104°52'31.766"W	1.52	
2921.00	26.840	354.990	2869.41	337.69	339.11	-30.92	40°07'25.957"N	104°52'31.809"W	2.72	
3007.00	28.020	352.820	2945.74	376.88	378.49	-35.14	40°07'26.346"N	104°52'31.863"W	1.80	
3092.00	27.890	352.780	3020.82	416.19	418.02	-40.13	40°07'26.737"N	104°52'31.928"W	0.15	
3177.00	26.530	353.390	3096.41	454.57	456.61	-44.82	40°07'27.118"N	104°52'31.988"W	1.63	
3262.00	27.270	354.120	3172.21	492.61	494.83	-49.00	40°07'27.496"N	104°52'32.042"W	0.95	
3347.00	25.620	354.460	3248.32	530.11	532.50	-52.77	40°07'27.868"N	104°52'32.090"W	1.95	
3432.00	26.020	355.450	3324.83	566.83	569.37	-56.02	40°07'28.233"N	104°52'32.132"W	0.69	
3517.00	25.810	355.770	3401.28	603.74	606.41	-58.86	40°07'28.599"N	104°52'32.169"W	0.30	
3602.00	24.490	354.840	3478.22	639.60	642.42	-61.81	40°07'28.954"N	104°52'32.207"W	1.62	

Actual Wellpath Report

COPPERHEAD 28N-15HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#43 COPPERHEAD 28N-15HZ (2368'FSL & 2225'FEL, SEC.22)
Area	COLORADO	Well	COPPERHEAD 28N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COPPERHEAD 28N-15HZ AWB <92-13468>
Facility	SEC.22-T2N-R67W		

WELLPATH DATA (149 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3687.00	24.140	355.470	3555.68	674.33	677.29	-64.77	40°07'29.299"N	104°52'32.245"W	0.51	
3772.00	23.320	355.540	3633.50	708.31	711.39	-67.45	40°07'29.636"N	104°52'32.279"W	0.97	
3857.00	26.160	356.430	3710.69	743.67	746.87	-69.93	40°07'29.987"N	104°52'32.311"W	3.37	
3942.00	27.360	355.920	3786.58	781.73	785.06	-72.48	40°07'30.364"N	104°52'32.344"W	1.44	
4026.00	25.370	357.580	3861.84	818.86	822.29	-74.62	40°07'30.732"N	104°52'32.372"W	2.53	
4110.00	24.960	358.470	3937.87	854.48	857.99	-75.85	40°07'31.085"N	104°52'32.387"W	0.66	
4196.00	25.310	358.640	4015.73	890.94	894.51	-76.77	40°07'31.446"N	104°52'32.399"W	0.42	
4281.00	25.870	357.120	4092.39	927.55	931.19	-78.13	40°07'31.808"N	104°52'32.417"W	1.02	
4366.00	26.170	355.830	4168.77	964.65	968.41	-80.43	40°07'32.176"N	104°52'32.446"W	0.75	
4450.00	28.260	356.750	4243.47	1002.86	1006.74	-82.90	40°07'32.555"N	104°52'32.478"W	2.54	
4535.00	28.480	357.060	4318.26	1043.08	1047.07	-85.08	40°07'32.953"N	104°52'32.506"W	0.31	
4621.00	26.030	357.000	4394.71	1082.30	1086.40	-87.12	40°07'33.342"N	104°52'32.533"W	2.85	
4706.00	23.960	0.510	4471.75	1118.13	1122.29	-87.95	40°07'33.697"N	104°52'32.543"W	2.99	
4791.00	24.200	356.250	4549.36	1152.71	1156.93	-88.93	40°07'34.039"N	104°52'32.556"W	2.06	
4876.00	25.960	356.680	4626.34	1188.56	1192.89	-91.15	40°07'34.394"N	104°52'32.584"W	2.08	
4961.00	27.360	356.970	4702.30	1226.54	1230.97	-93.26	40°07'34.771"N	104°52'32.612"W	1.65	
5046.00	29.260	356.220	4777.13	1266.65	1271.21	-95.66	40°07'35.168"N	104°52'32.642"W	2.27	
5131.00	28.430	354.780	4851.59	1307.38	1312.09	-98.87	40°07'35.572"N	104°52'32.684"W	1.27	
5216.00	25.620	353.790	4927.30	1345.63	1350.52	-102.70	40°07'35.952"N	104°52'32.733"W	3.35	
5301.00	25.110	356.860	5004.11	1381.77	1386.79	-105.68	40°07'36.310"N	104°52'32.771"W	1.66	
5386.00	25.610	356.040	5080.92	1417.99	1423.13	-107.93	40°07'36.670"N	104°52'32.800"W	0.72	
5471.00	25.970	356.730	5157.45	1454.79	1460.04	-110.26	40°07'37.034"N	104°52'32.830"W	0.55	
5556.00	25.520	356.430	5234.01	1491.53	1496.89	-112.46	40°07'37.398"N	104°52'32.859"W	0.55	
5641.00	24.190	356.480	5311.14	1527.08	1532.55	-114.67	40°07'37.751"N	104°52'32.887"W	1.56	
5727.00	23.520	355.930	5389.79	1561.67	1567.25	-116.97	40°07'38.094"N	104°52'32.917"W	0.82	
5812.00	23.030	358.150	5467.87	1595.12	1600.79	-118.71	40°07'38.425"N	104°52'32.939"W	1.18	
5897.00	24.190	356.900	5545.76	1629.04	1634.80	-120.19	40°07'38.761"N	104°52'32.958"W	1.49	
5982.00	26.610	355.140	5622.54	1665.28	1671.16	-122.75	40°07'39.121"N	104°52'32.991"W	2.98	
6067.00	25.500	355.130	5698.90	1702.34	1708.36	-125.91	40°07'39.488"N	104°52'33.032"W	1.31	
6152.00	25.050	357.990	5775.76	1738.44	1744.58	-128.10	40°07'39.846"N	104°52'33.060"W	1.53	
6237.00	25.160	356.900	5852.73	1774.38	1780.60	-129.71	40°07'40.202"N	104°52'33.081"W	0.56	
6322.00	24.930	355.450	5929.74	1810.17	1816.51	-132.11	40°07'40.557"N	104°52'33.112"W	0.77	
6407.00	25.110	357.560	6006.77	1845.93	1852.38	-134.29	40°07'40.911"N	104°52'33.140"W	1.07	
6492.00	27.010	357.000	6083.12	1883.14	1889.68	-136.07	40°07'41.280"N	104°52'33.163"W	2.25	
6577.00	26.110	355.860	6159.15	1920.95	1927.61	-138.43	40°07'41.655"N	104°52'33.193"W	1.22	
6662.00	26.500	357.300	6235.35	1958.44	1965.21	-140.68	40°07'42.026"N	104°52'33.222"W	0.88	
6747.00	26.770	355.690	6311.33	1996.35	2003.24	-143.01	40°07'42.402"N	104°52'33.252"W	0.91	
6833.00	26.430	356.350	6388.23	2034.63	2041.65	-145.68	40°07'42.782"N	104°52'33.286"W	0.52	
6918.00	26.130	356.580	6464.44	2072.08	2079.22	-148.00	40°07'43.153"N	104°52'33.316"W	0.37	
7003.00	26.280	357.490	6540.71	2109.46	2116.70	-149.94	40°07'43.523"N	104°52'33.341"W	0.50	
7088.00	25.850	354.990	6617.06	2146.60	2153.96	-152.39	40°07'43.892"N	104°52'33.373"W	1.39	
7173.00	24.870	355.430	6693.87	2182.74	2190.24	-155.43	40°07'44.250"N	104°52'33.412"W	1.17	
7258.00	24.900	356.710	6770.98	2218.30	2225.92	-157.88	40°07'44.603"N	104°52'33.444"W	0.63	
7343.00	26.590	357.880	6847.54	2255.09	2262.80	-159.61	40°07'44.967"N	104°52'33.466"W	2.08	
7428.00	26.870	358.900	6923.46	2293.24	2301.01	-160.68	40°07'45.345"N	104°52'33.480"W	0.63	

Actual Wellpath Report

COPPERHEAD 28N-15HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#43 COPPERHEAD 28N-15HZ (2368'FSL & 2225'FEL, SEC.22)
Area	COLORADO	Well	COPPERHEAD 28N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COPPERHEAD 28N-15HZ AWB <92-13468>
Facility	SEC.22-T2N-R67W		

WELLPATH DATA (149 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7515.00	26.240	356.030	7001.28	2331.99	2339.86	-162.39	40°07'45.729"N	104°52'33.502"W	1.64	
7558.00	28.450	356.540	7039.48	2351.63	2359.57	-163.67	40°07'45.923"N	104°52'33.518"W	5.17	
7600.00	30.930	358.030	7075.96	2372.36	2380.34	-164.64	40°07'46.129"N	104°52'33.531"W	6.16	
7643.00	34.030	357.580	7112.23	2395.38	2403.42	-165.53	40°07'46.357"N	104°52'33.542"W	7.23	
7685.00	37.940	358.270	7146.21	2419.99	2428.07	-166.42	40°07'46.600"N	104°52'33.553"W	9.36	
7728.00	41.500	0.790	7179.28	2447.43	2455.54	-166.62	40°07'46.872"N	104°52'33.556"W	9.09	
7770.00	42.170	1.610	7210.57	2475.44	2483.55	-166.03	40°07'47.149"N	104°52'33.549"W	2.06	
7813.00	46.750	2.150	7241.25	2505.54	2513.64	-165.04	40°07'47.446"N	104°52'33.536"W	10.69	
7857.00	52.090	1.160	7269.87	2538.95	2547.03	-164.09	40°07'47.776"N	104°52'33.523"W	12.26	
7900.00	54.160	1.660	7295.67	2573.34	2581.42	-163.24	40°07'48.116"N	104°52'33.513"W	4.90	
7942.00	56.320	1.110	7319.61	2607.84	2615.91	-162.41	40°07'48.457"N	104°52'33.502"W	5.25	
7985.00	58.570	1.800	7342.75	2644.08	2652.14	-161.48	40°07'48.815"N	104°52'33.490"W	5.40	
8027.00	61.550	1.110	7363.71	2680.47	2688.52	-160.56	40°07'49.174"N	104°52'33.478"W	7.24	
8070.00	65.170	1.490	7382.99	2718.89	2726.94	-159.69	40°07'49.554"N	104°52'33.467"W	8.46	
8112.00	68.960	1.430	7399.35	2757.56	2765.60	-158.70	40°07'49.936"N	104°52'33.454"W	9.02	
8155.00	72.760	1.590	7413.45	2798.17	2806.20	-157.63	40°07'50.337"N	104°52'33.440"W	8.84	
8197.00	75.890	1.540	7424.79	2838.60	2846.62	-156.53	40°07'50.737"N	104°52'33.426"W	7.45	
8240.00	78.200	1.580	7434.43	2880.50	2888.50	-155.39	40°07'51.151"N	104°52'33.412"W	5.37	
8282.00	78.580	1.900	7442.89	2921.64	2929.63	-154.14	40°07'51.557"N	104°52'33.395"W	1.17	
8328.00	82.520	2.220	7450.44	2967.01	2974.96	-152.51	40°07'52.005"N	104°52'33.374"W	8.59	
8370.00	87.040	2.350	7454.26	3008.82	3016.74	-150.84	40°07'52.418"N	104°52'33.353"W	10.77	
8406.00†	88.630	2.224	7455.62	3044.80	3052.69	-149.40	40°07'52.773"N	104°52'33.334"W	4.43	7" Casing Point
8430.00	89.690	2.140	7455.97	3068.79	3076.67	-148.49	40°07'53.010"N	104°52'33.323"W	4.43	
8515.00	89.160	2.020	7456.82	3153.79	3161.61	-145.41	40°07'53.849"N	104°52'33.283"W	0.64	
8600.00	89.870	2.060	7457.54	3238.79	3246.55	-142.38	40°07'54.689"N	104°52'33.244"W	0.84	
8685.00	90.490	1.570	7457.27	3323.78	3331.51	-139.69	40°07'55.528"N	104°52'33.209"W	0.93	
8770.00	91.130	1.940	7456.07	3408.77	3416.46	-137.09	40°07'56.368"N	104°52'33.176"W	0.87	
8854.00	91.070	1.880	7454.46	3492.75	3500.40	-134.29	40°07'57.197"N	104°52'33.140"W	0.10	
8938.00	91.010	1.960	7452.94	3576.74	3584.34	-131.47	40°07'58.027"N	104°52'33.104"W	0.12	
9109.00	91.350	1.950	7449.41	3747.70	3755.20	-125.64	40°07'59.715"N	104°52'33.029"W	0.20	
9364.00	91.510	2.820	7443.05	4002.62	4009.90	-115.03	40°08'02.232"N	104°52'32.892"W	0.35	
9534.00	91.540	2.840	7438.53	4172.55	4179.63	-106.64	40°08'03.910"N	104°52'32.784"W	0.02	
9619.00	90.430	2.850	7437.06	4257.53	4264.51	-102.42	40°08'04.748"N	104°52'32.730"W	1.31	
9874.00	90.030	1.890	7436.04	4512.52	4519.29	-91.88	40°08'07.266"N	104°52'32.594"W	0.41	
10130.00	90.360	4.890	7435.17	4768.43	4774.81	-76.74	40°08'09.791"N	104°52'32.399"W	1.18	
10215.00	90.030	4.560	7434.88	4853.35	4859.52	-69.74	40°08'10.628"N	104°52'32.309"W	0.55	
10300.00	89.930	4.020	7434.91	4938.29	4944.28	-63.38	40°08'11.466"N	104°52'32.227"W	0.65	
10385.00	89.690	1.030	7435.19	5023.28	5029.19	-59.64	40°08'12.305"N	104°52'32.179"W	3.53	
10469.00	90.640	0.560	7434.95	5107.25	5113.18	-58.47	40°08'13.135"N	104°52'32.164"W	1.26	
10640.00	89.660	0.190	7434.50	5278.16	5284.17	-57.35	40°08'14.825"N	104°52'32.149"W	0.61	
10725.00	90.800	1.190	7434.16	5363.13	5369.16	-56.33	40°08'15.665"N	104°52'32.136"W	1.78	
10895.00	91.380	1.190	7430.93	5533.08	5539.09	-52.80	40°08'17.344"N	104°52'32.091"W	0.34	
11065.00	92.920	1.130	7424.55	5702.92	5708.93	-49.36	40°08'19.022"N	104°52'32.047"W	0.91	
11151.00	91.850	0.890	7420.97	5788.83	5794.84	-47.85	40°08'19.871"N	104°52'32.027"W	1.28	
11236.00	90.490	1.050	7419.24	5873.79	5879.81	-46.41	40°08'20.711"N	104°52'32.009"W	1.61	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#43 COPPERHEAD 28N-15HZ (2368'FSL & 2225'FEL, SEC.22)
Area	COLORADO	Well	COPPERHEAD 28N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COPPERHEAD 28N-15HZ AWB <92-13468>
Facility	SEC.22-T2N-R67W		

WELLPATH DATA (149 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11321.00	91.040	1.300	7418.10	5958.77	5964.79	-44.67	40°08'21.551"N	104°52'31.986"W	0.71	
11406.00	89.630	1.760	7417.60	6043.76	6049.75	-42.40	40°08'22.390"N	104°52'31.957"W	1.74	
11491.00	89.530	1.870	7418.23	6128.76	6134.71	-39.70	40°08'23.230"N	104°52'31.922"W	0.17	
11661.00	89.250	2.390	7420.04	6298.75	6304.58	-33.39	40°08'24.908"N	104°52'31.841"W	0.35	
11832.00	88.890	2.810	7422.81	6469.72	6475.38	-25.63	40°08'26.596"N	104°52'31.741"W	0.32	
11916.00	88.570	2.730	7424.67	6553.69	6559.26	-21.57	40°08'27.425"N	104°52'31.689"W	0.39	
12001.00	89.840	1.610	7425.85	6638.68	6644.19	-18.35	40°08'28.265"N	104°52'31.647"W	1.99	
12086.00	90.550	2.420	7425.56	6723.68	6729.14	-15.36	40°08'29.104"N	104°52'31.609"W	1.27	
12344.00	91.040	2.980	7421.98	6981.64	6986.82	-3.21	40°08'31.650"N	104°52'31.452"W	0.29	
12598.00	91.170	2.850	7417.09	7235.57	7240.45	9.70	40°08'34.157"N	104°52'31.286"W	0.07	
12855.00	89.320	1.370	7415.99	7492.55	7497.25	19.16	40°08'36.695"N	104°52'31.164"W	0.92	
13111.00	89.320	0.650	7419.03	7748.48	7753.19	23.68	40°08'39.224"N	104°52'31.106"W	0.28	
13409.00	89.690	1.310	7421.60	8046.40	8051.13	28.77	40°08'42.168"N	104°52'31.041"W	0.25	Last BHI MWD+IFR Surveys
13468.00	89.690	1.310	7421.92	8105.39	8110.12	30.12	40°08'42.751"N	104°52'31.023"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: COPPERHEAD 28N-15HZ AWB <92-13468> Ref Wellpath: COPPERHEAD 28N-15HZ 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	16.00	1338.00	1322.00	16.00	1337.93	0.00	0.00	0.36	0.62
9.625in Casing Surface	16.00	1327.00	1311.00	16.00	1326.93	0.00	0.00	0.17	0.82
8.75in Open Hole	1338.00	8416.00	7078.00	1337.93	7455.82	0.36	0.62	3062.68	-149.02
7in Casing Intermediate	16.00	8406.00	8390.00	16.00	7455.62	0.00	0.00	3052.69	-149.40
6.125in Open Hole	8416.00	13468.00	5052.00	7455.82	7421.92	3062.68	-149.02	8110.12	30.12

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.15-T2N-67W SECTION LINES	30.00	12819.88	-987.00	3173592.05	1301060.42	40°09'29.293"N	104°52'44.123"W	polygon
SEC.22-T2N-R67W SECTION LINES	30.00	2279.77	-2122.74	3172530.63	1290513.02	40°07'45.134"N	104°52'58.739"W	polygon
COPPERHEAD 28N-15HZ BHL ON PLAT (50'FNL & 2243'FEL, SEC.15) REV-1	7355.00	8135.40	34.37	3174646.35	1296383.45	40°08'43.001"N	104°52'30.968"W	point
COPPERHEAD 28N-15HZ LAND BOX	7355.00	0.00	0.00	3174669.28	1288248.36	40°07'22.606"N	104°52'31.411"W	polygon
COPPERHEAD 28N-15HZ BHL ON PLAT (50'FNL & 2243'FEL, SEC.15) REV-2	7410.00	8135.40	34.37	3174646.35	1296383.45	40°08'43.001"N	104°52'30.968"W	point

Actual Wellpath Report

COPPERHEAD 28N-15HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#43 COPPERHEAD 28N-15HZ (2368'FSL & 2225'FEL, SEC.22)
Area	COLORADO	Well	COPPERHEAD 28N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COPPERHEAD 28N-15HZ AWB <92-13468>
Facility	SEC.22-T2N-R67W		

WELLPATH COMPOSITION - Ref Wellbore: COPPERHEAD 28N-15HZ AWB <92-13468> Ref Wellpath: COPPERHEAD 28N-15HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	1293.00	ISCWSA MWD, Rev. 2 (Standard)	CATHEDRAL MWD SURVEYS <92-1293>	COPPERHEAD 28N-15HZ AWB <92-13468>
1293.00	8370.00	NaviTrak (MAGCORR,IFR)	BHI NAVITRAK MWD+IFR 8 3/4" <1367-8370>	COPPERHEAD 28N-15HZ AWB <92-13468>
8370.00	13409.00	NaviTrak (MAGCORR,IFR)	BHI NAVITRAK MWD+IFR 6 1/8" <8430-13409>	COPPERHEAD 28N-15HZ AWB <92-13468>
13409.00	13468.00	Blind Drilling (std)	Projection to bit	COPPERHEAD 28N-15HZ AWB <92-13468>

Actual Wellpath Report

COPPERHEAD 28N-15HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#43 COPPERHEAD 28N-15HZ (2368'FSL & 2225'FEL, SEC.22)
Area	COLORADO	Well	COPPERHEAD 28N-15HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	COPPERHEAD 28N-15HZ AWB <92-13468>
Facility	SEC.22-T2N-R67W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	256.300	16.00	Tie-On
92.00	0.600	256.300	92.00	Begin CATHEDRAL MWD Surveys
1293.00	1.000	303.200	1292.94	Tie-Into CATHEDRAL MWD Surveys
1367.00	1.770	318.240	1366.92	Begin BHI MWD+IFR Surveys
8406.00	88.630	2.224	7455.62	7" Casing Point
13409.00	89.690	1.310	7421.60	Last BHI MWD+IFR Surveys
13468.00	89.690	1.310	7421.92	Projection to Bit