

# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#01 HOWARD 10C-29HZ (2491'FNL & 1549'FEL, SEC.32)  
Field: WELD COUNTY (KERR MCGEE) Well: HOWARD 10C-29HZ  
Facility: SEC.32-T1N-R67W Wellbore: HOWARD 10C-29HZ PWB

Plot reference wellpath is HOWARD 10C-29HZ (REV-C.0) PWP

True vertical depths are referenced to XTREME 20 (RKB)

Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet

Measured depths are referenced to XTREME 20 (RKB)

North Reference: True north

XTREME 20 (RKB) to Mean Sea Level: 5073 feet

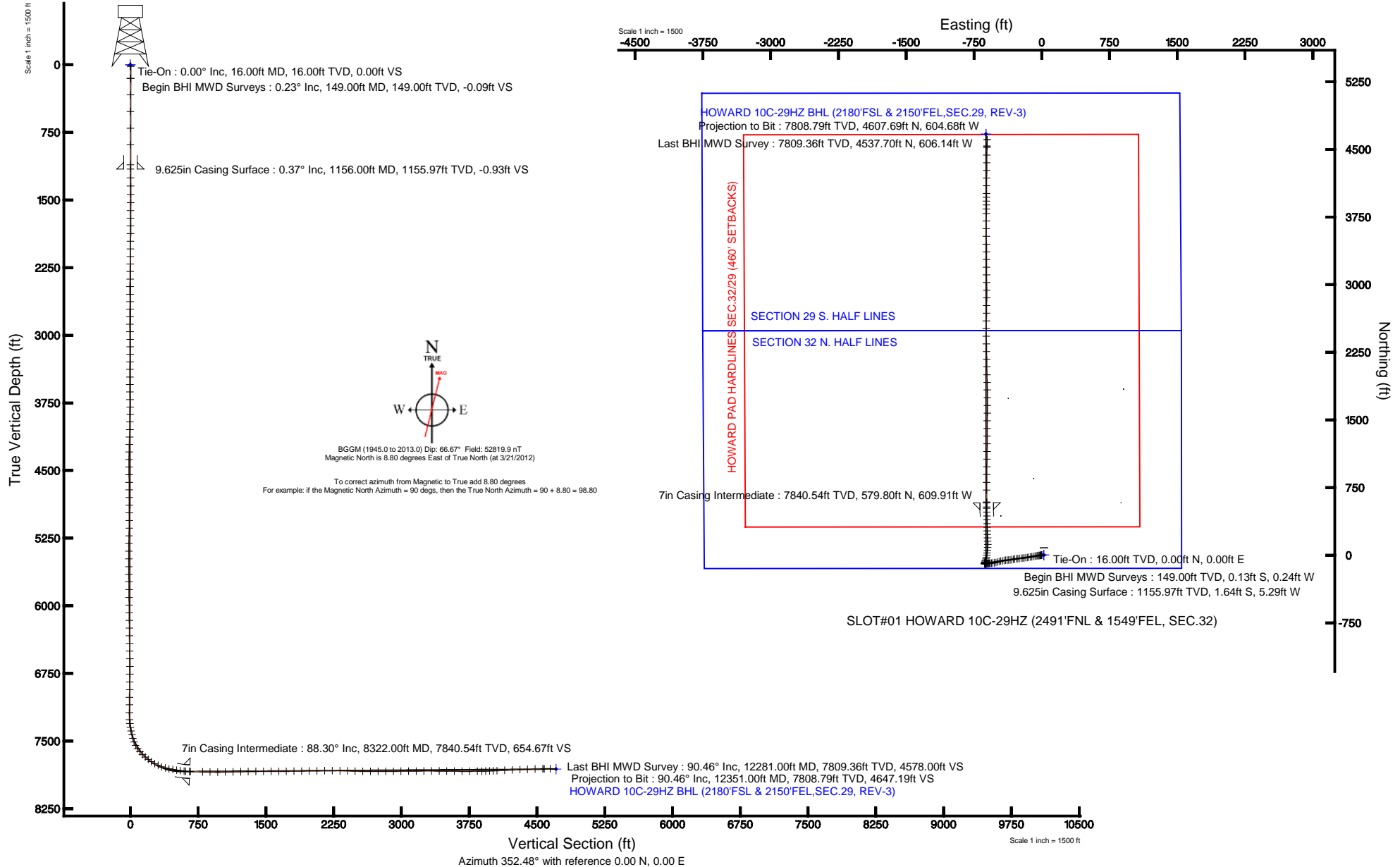
Scale: True distance

Mean Sea Level to Mud line (At Slot: SLOT#01 HOWARD 10C-29HZ (2491'FNL & 1549'FEL, SEC.32)): 0 feet

Depths are in feet

Coordinates are in feet referenced to Slot

Created by: wlsje02 on 4/19/2012





# Actual Wellpath Report

HOWARD 10C-29HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 HOWARD 10C-29HZ (2491'FNL & 1549'FEL, SEC.32)
Area	COLORADO	Well	HOWARD 10C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 10C-29HZ AWB
Facility	SEC.32-T1N-R67W		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 3.0.2
North Reference	True	User	Wilsjef02
Scale	0.999966	Report Generated	4/19/2012 at 10:50:37
Convergence at slot	0.38° East	Database/Source file	WellArchitectDB/HOWARD_10C-29HZ_AWB.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	3165162.17	1246309.41	40°00'28.793"N	104°54'37.386"W
Facility Reference Pt			3165162.17	1246309.41	40°00'28.793"N	104°54'37.386"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 (RKB) to Facility Vertical Datum	5073.00ft
Horizontal Reference Pt	Slot	XTREME 20 (RKB) to Mean Sea Level	5073.00ft
Vertical Reference Pt	XTREME 20 (RKB)	XTREME 20 (RKB) to Mud Line at Slot (SLOT#01 HOWARD 10C-29HZ (2491'FNL & 1549'FEL, SEC.32))	5073.00ft
MD Reference Pt	XTREME 20 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	352.48°



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HOWARD 10C-29HZ AWP

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Area	COLORADO	Well	HOWARD 10C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 10C-29HZ AWB
Facility	SEC.32-T1N-R67W		

## WELLPATH DATA (155 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	242.020	0.00	0.00	0.00	0.00	40°00'28.793"N	104°54'37.386"W	0.00	
16.00	0.000	242.020	16.00	0.00	0.00	0.00	40°00'28.793"N	104°54'37.386"W	0.00	Tie-On
149.00	0.230	242.020	149.00	-0.09	-0.13	-0.24	40°00'28.792"N	104°54'37.389"W	0.17	Begin BHI MWD Surveys
334.00	0.650	187.970	333.99	-1.23	-1.34	-0.71	40°00'28.780"N	104°54'37.395"W	0.30	
518.00	0.130	297.330	517.99	-2.12	-2.28	-1.04	40°00'28.771"N	104°54'37.399"W	0.38	
702.00	0.540	293.830	701.99	-1.55	-1.83	-2.02	40°00'28.775"N	104°54'37.412"W	0.22	
886.00	0.400	253.960	885.98	-1.19	-1.66	-3.43	40°00'28.777"N	104°54'37.430"W	0.19	
1109.00	0.420	280.640	1108.98	-1.05	-1.72	-4.98	40°00'28.776"N	104°54'37.450"W	0.09	
1253.00	0.310	318.960	1252.97	-0.57	-1.33	-5.75	40°00'28.780"N	104°54'37.460"W	0.18	
1345.00	0.300	299.140	1344.97	-0.21	-1.03	-6.13	40°00'28.783"N	104°54'37.465"W	0.11	
1437.00	0.540	304.170	1436.97	0.22	-0.66	-6.70	40°00'28.786"N	104°54'37.472"W	0.26	
1529.00	1.540	239.030	1528.96	0.01	-1.06	-8.12	40°00'28.783"N	104°54'37.490"W	1.52	
1617.00	2.090	244.130	1616.91	-0.96	-2.37	-10.57	40°00'28.770"N	104°54'37.522"W	0.65	
1702.00	3.300	256.960	1701.82	-1.68	-3.59	-14.35	40°00'28.757"N	104°54'37.570"W	1.58	
1788.00	3.930	262.070	1787.64	-1.94	-4.56	-19.68	40°00'28.748"N	104°54'37.639"W	0.82	
1873.00	5.350	266.940	1872.36	-1.66	-5.17	-26.52	40°00'28.742"N	104°54'37.727"W	1.73	
1958.00	6.870	265.070	1956.88	-1.12	-5.82	-35.55	40°00'28.735"N	104°54'37.843"W	1.80	
2043.00	8.130	261.240	2041.15	-1.02	-7.17	-46.55	40°00'28.722"N	104°54'37.984"W	1.59	
2129.00	9.370	258.230	2126.15	-1.67	-9.53	-59.42	40°00'28.699"N	104°54'38.150"W	1.54	
2214.00	10.810	258.190	2209.83	-2.77	-12.57	-73.99	40°00'28.669"N	104°54'38.337"W	1.69	
2299.00	12.550	259.450	2293.07	-3.86	-15.89	-90.88	40°00'28.636"N	104°54'38.554"W	2.07	
2384.00	11.480	258.350	2376.21	-4.95	-19.29	-108.24	40°00'28.602"N	104°54'38.777"W	1.29	
2470.00	11.360	262.280	2460.50	-5.60	-22.16	-125.02	40°00'28.574"N	104°54'38.993"W	0.92	
2555.00	12.150	264.100	2543.72	-5.37	-24.20	-142.21	40°00'28.554"N	104°54'39.214"W	1.03	
2640.00	11.390	262.400	2626.93	-5.13	-26.23	-159.43	40°00'28.534"N	104°54'39.435"W	0.98	
2726.00	12.440	261.030	2711.08	-5.38	-28.80	-176.99	40°00'28.508"N	104°54'39.661"W	1.26	
2811.00	10.810	262.030	2794.33	-5.67	-31.33	-193.93	40°00'28.483"N	104°54'39.878"W	1.93	
2896.00	11.400	262.440	2877.74	-5.74	-33.54	-210.15	40°00'28.462"N	104°54'40.087"W	0.70	
2981.00	12.090	266.330	2960.96	-5.14	-35.22	-227.36	40°00'28.445"N	104°54'40.308"W	1.24	
3067.00	12.540	262.770	3044.98	-4.49	-36.97	-245.61	40°00'28.428"N	104°54'40.542"W	1.03	
3152.00	11.260	262.750	3128.16	-4.40	-39.18	-263.00	40°00'28.406"N	104°54'40.766"W	1.51	
3237.00	11.850	259.600	3211.43	-4.80	-41.80	-279.82	40°00'28.380"N	104°54'40.982"W	1.02	
3323.00	12.790	261.800	3295.45	-5.36	-44.75	-297.93	40°00'28.351"N	104°54'41.215"W	1.22	
3408.00	10.770	258.030	3378.66	-6.08	-47.74	-315.01	40°00'28.321"N	104°54'41.434"W	2.54	
3493.00	11.310	259.270	3462.09	-7.16	-50.94	-330.97	40°00'28.290"N	104°54'41.639"W	0.69	
3579.00	12.190	262.440	3546.28	-7.64	-53.71	-348.26	40°00'28.262"N	104°54'41.861"W	1.27	
3664.00	11.500	268.280	3629.48	-6.79	-55.14	-365.62	40°00'28.248"N	104°54'42.085"W	1.63	
3749.00	11.570	266.990	3712.76	-5.26	-55.84	-382.60	40°00'28.241"N	104°54'42.303"W	0.31	
3834.00	11.840	263.810	3795.99	-4.39	-57.23	-399.78	40°00'28.227"N	104°54'42.524"W	0.82	
3919.00	12.200	258.180	3879.13	-4.86	-60.01	-417.25	40°00'28.200"N	104°54'42.748"W	1.44	
4004.00	12.550	259.150	3962.16	-6.07	-63.59	-435.11	40°00'28.165"N	104°54'42.978"W	0.48	
4090.00	12.510	255.980	4046.11	-7.66	-67.60	-453.32	40°00'28.125"N	104°54'43.212"W	0.80	
4175.00	12.200	253.180	4129.14	-10.15	-72.43	-470.85	40°00'28.077"N	104°54'43.437"W	0.79	
4260.00	12.660	254.590	4212.15	-12.88	-77.51	-488.43	40°00'28.027"N	104°54'43.663"W	0.65	
4345.00	12.520	255.210	4295.11	-15.33	-82.33	-506.31	40°00'27.979"N	104°54'43.893"W	0.23	



# Actual Wellpath Report

HOWARD 10C-29HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 HOWARD 10C-29HZ (2491'FNL & 1549'FEL, SEC.32)
Area	COLORADO	Well	HOWARD 10C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 10C-29HZ AWB
Facility	SEC.32-T1N-R67W		

## WELLPATH DATA (155 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4431.00	11.580	263.430	4379.22	-16.36	-85.70	-523.90	40°00'27.946"N	104°54'44.119"W	2.27	
4516.00	10.910	264.720	4462.58	-15.91	-87.42	-540.39	40°00'27.929"N	104°54'44.331"W	0.84	
4601.00	9.620	263.940	4546.22	-15.41	-88.91	-555.46	40°00'27.914"N	104°54'44.524"W	1.53	
4687.00	7.420	262.100	4631.27	-15.26	-90.43	-568.11	40°00'27.899"N	104°54'44.687"W	2.58	
4772.00	6.570	262.450	4715.63	-15.30	-91.82	-578.37	40°00'27.886"N	104°54'44.819"W	1.00	
4857.00	5.620	266.610	4800.15	-15.00	-92.71	-587.34	40°00'27.877"N	104°54'44.934"W	1.23	
4942.00	5.110	270.280	4884.78	-14.19	-92.94	-595.28	40°00'27.875"N	104°54'45.036"W	0.72	
5028.00	4.830	262.000	4970.46	-13.70	-93.42	-602.70	40°00'27.870"N	104°54'45.131"W	0.89	
5113.00	4.040	259.620	5055.20	-13.88	-94.46	-609.19	40°00'27.859"N	104°54'45.215"W	0.95	
5198.00	3.400	243.710	5140.03	-14.84	-96.11	-614.39	40°00'27.843"N	104°54'45.282"W	1.42	
5284.00	3.010	239.570	5225.89	-16.54	-98.39	-618.62	40°00'27.821"N	104°54'45.336"W	0.53	
5369.00	1.680	211.440	5310.82	-18.37	-100.58	-621.20	40°00'27.799"N	104°54'45.369"W	2.03	
5454.00	0.780	110.980	5395.81	-19.62	-101.85	-621.31	40°00'27.786"N	104°54'45.370"W	2.33	
5539.00	1.350	77.670	5480.79	-19.81	-101.85	-619.79	40°00'27.786"N	104°54'45.351"W	0.96	
5625.00	0.480	2.550	5566.78	-19.37	-101.27	-618.78	40°00'27.792"N	104°54'45.338"W	1.53	
5710.00	0.560	356.920	5651.78	-18.61	-100.50	-618.79	40°00'27.800"N	104°54'45.338"W	0.11	
5795.00	0.580	341.840	5736.78	-17.77	-99.67	-618.95	40°00'27.808"N	104°54'45.340"W	0.18	
5880.00	0.640	351.590	5821.77	-16.87	-98.80	-619.15	40°00'27.817"N	104°54'45.343"W	0.14	
5966.00	0.660	332.730	5907.77	-15.93	-97.88	-619.45	40°00'27.826"N	104°54'45.347"W	0.25	
6051.00	0.720	335.380	5992.76	-14.95	-96.96	-619.89	40°00'27.835"N	104°54'45.352"W	0.08	
6136.00	0.640	324.300	6077.75	-14.03	-96.09	-620.39	40°00'27.843"N	104°54'45.359"W	0.18	
6222.00	0.600	337.290	6163.75	-13.17	-95.28	-620.85	40°00'27.851"N	104°54'45.365"W	0.17	
6307.00	0.820	323.850	6248.74	-12.20	-94.38	-621.38	40°00'27.860"N	104°54'45.371"W	0.32	
6392.00	0.690	324.220	6333.73	-11.22	-93.48	-622.04	40°00'27.869"N	104°54'45.380"W	0.15	
6477.00	0.860	316.630	6418.73	-10.25	-92.60	-622.77	40°00'27.878"N	104°54'45.389"W	0.23	
6563.00	1.290	309.470	6504.71	-9.02	-91.51	-623.96	40°00'27.889"N	104°54'45.405"W	0.52	
6648.00	1.540	290.400	6589.69	-7.79	-90.51	-625.77	40°00'27.899"N	104°54'45.428"W	0.62	
6733.00	1.550	261.870	6674.66	-7.26	-90.27	-627.98	40°00'27.901"N	104°54'45.456"W	0.90	
6818.00	1.170	244.290	6759.63	-7.55	-90.81	-629.90	40°00'27.896"N	104°54'45.481"W	0.66	
6904.00	0.790	191.550	6845.62	-8.38	-91.77	-630.81	40°00'27.886"N	104°54'45.493"W	1.09	
6989.00	1.130	207.120	6930.61	-9.62	-93.09	-631.31	40°00'27.873"N	104°54'45.499"W	0.50	
7074.00	1.360	202.960	7015.59	-11.18	-94.77	-632.09	40°00'27.856"N	104°54'45.509"W	0.29	
7159.00	0.420	194.970	7100.58	-12.34	-96.00	-632.56	40°00'27.844"N	104°54'45.515"W	1.11	
7245.00	0.370	198.770	7186.58	-12.88	-96.56	-632.73	40°00'27.839"N	104°54'45.517"W	0.07	
7322.00	2.570	7.220	7263.55	-11.43	-95.09	-632.59	40°00'27.853"N	104°54'45.516"W	3.81	
7365.00	6.640	11.070	7306.41	-8.14	-91.69	-632.00	40°00'27.887"N	104°54'45.508"W	9.49	
7408.00	10.540	16.620	7348.92	-2.20	-85.48	-630.39	40°00'27.948"N	104°54'45.487"W	9.26	
7450.00	13.450	13.020	7390.00	5.89	-77.04	-628.19	40°00'28.032"N	104°54'45.459"W	7.15	
7493.00	14.610	17.060	7431.71	15.50	-66.98	-625.48	40°00'28.131"N	104°54'45.424"W	3.53	
7535.00	17.830	21.760	7472.04	25.93	-55.94	-621.54	40°00'28.240"N	104°54'45.373"W	8.27	
7578.00	21.790	17.010	7512.49	38.94	-42.19	-616.76	40°00'28.376"N	104°54'45.312"W	9.93	
7620.00	29.060	14.030	7550.40	55.54	-24.81	-612.00	40°00'28.548"N	104°54'45.251"W	17.57	
7663.00	34.840	7.860	7586.88	77.12	-2.49	-607.78	40°00'28.768"N	104°54'45.197"W	15.42	
7706.00	41.190	5.670	7620.74	102.77	23.80	-604.70	40°00'29.028"N	104°54'45.157"W	15.09	
7749.00	47.550	6.650	7651.46	131.97	53.67	-601.46	40°00'29.323"N	104°54'45.115"W	14.88	



# Actual Wellpath Report

HOWARD 10C-29HZ AWP

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Area	COLORADO	Well	HOWARD 10C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 10C-29HZ AWB
Facility	SEC.32-T1N-R67W		

## WELLPATH DATA (155 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7791.00	50.480	4.980	7679.00	162.82	85.21	-598.26	40°00'29.635"N	104°54'45.074"W	7.59	
7834.00	53.180	359.730	7705.59	196.10	118.97	-596.90	40°00'29.969"N	104°54'45.057"W	11.47	
7877.00	56.930	356.650	7730.22	231.16	154.18	-598.04	40°00'30.317"N	104°54'45.071"W	10.51	
7919.00	61.820	357.350	7751.61	267.18	190.26	-599.92	40°00'30.673"N	104°54'45.096"W	11.73	
7961.00	64.700	358.190	7770.50	304.52	227.74	-601.38	40°00'31.044"N	104°54'45.114"W	7.09	
8004.00	69.900	358.620	7787.09	343.97	267.38	-602.48	40°00'31.435"N	104°54'45.129"W	12.13	
8047.00	74.160	358.410	7800.35	384.63	308.26	-603.54	40°00'31.839"N	104°54'45.142"W	9.92	
8089.00	79.380	358.830	7809.96	425.27	349.12	-604.52	40°00'32.243"N	104°54'45.155"W	12.47	
8132.00	80.720	358.280	7817.39	467.38	391.46	-605.59	40°00'32.661"N	104°54'45.169"W	3.36	
8175.00	80.820	358.130	7824.29	509.61	433.88	-606.92	40°00'33.081"N	104°54'45.186"W	0.42	
8217.00	80.910	358.350	7830.96	550.87	475.33	-608.19	40°00'33.490"N	104°54'45.202"W	0.56	
8260.00	84.080	359.220	7836.57	593.24	517.94	-609.10	40°00'33.911"N	104°54'45.214"W	7.64	
8277.00	85.520	358.810	7838.11	610.06	534.87	-609.39	40°00'34.079"N	104°54'45.217"W	8.80	
8322.00†	88.305	359.855	7840.54	654.67	579.80	-609.91	40°00'34.523"N	104°54'45.224"W	6.61	7" Casing Point
8330.00	88.800	0.040	7840.74	662.60	587.79	-609.92	40°00'34.602"N	104°54'45.224"W	6.61	
8465.00	88.490	359.770	7843.93	796.43	722.76	-610.14	40°00'35.935"N	104°54'45.227"W	0.30	
8550.00	89.140	0.510	7845.69	880.65	807.74	-609.93	40°00'36.775"N	104°54'45.225"W	1.16	
8636.00	89.900	0.870	7846.41	965.76	893.73	-608.90	40°00'37.625"N	104°54'45.211"W	0.98	
8721.00	91.160	0.800	7845.62	1049.85	978.71	-607.66	40°00'38.465"N	104°54'45.195"W	1.48	
8806.00	91.410	0.730	7843.72	1133.94	1063.68	-606.52	40°00'39.305"N	104°54'45.181"W	0.31	
8892.00	91.570	0.860	7841.48	1219.01	1149.64	-605.33	40°00'40.154"N	104°54'45.166"W	0.24	
8977.00	90.550	359.790	7839.91	1303.20	1234.63	-604.85	40°00'40.994"N	104°54'45.159"W	1.74	
9062.00	90.860	0.320	7838.86	1387.45	1319.62	-604.77	40°00'41.834"N	104°54'45.158"W	0.72	
9147.00	91.010	0.690	7837.48	1471.60	1404.60	-604.02	40°00'42.674"N	104°54'45.149"W	0.47	
9233.00	89.870	0.510	7836.82	1556.74	1490.60	-603.12	40°00'43.523"N	104°54'45.137"W	1.34	
9318.00	89.810	0.670	7837.05	1640.88	1575.59	-602.24	40°00'44.363"N	104°54'45.126"W	0.20	
9403.00	90.520	0.460	7836.81	1725.04	1660.59	-601.40	40°00'45.203"N	104°54'45.115"W	0.87	
9488.00	90.710	359.750	7835.90	1809.28	1745.58	-601.25	40°00'46.043"N	104°54'45.113"W	0.86	
9574.00	90.830	358.400	7834.74	1894.70	1831.56	-602.64	40°00'46.893"N	104°54'45.131"W	1.58	
9659.00	90.920	358.970	7833.44	1979.19	1916.53	-604.59	40°00'47.733"N	104°54'45.156"W	0.68	
9744.00	90.980	358.820	7832.03	2063.65	2001.50	-606.23	40°00'48.572"N	104°54'45.177"W	0.19	
9830.00	90.830	358.930	7830.67	2149.10	2087.47	-607.91	40°00'49.422"N	104°54'45.199"W	0.22	
9915.00	89.970	358.790	7830.08	2233.57	2172.45	-609.61	40°00'50.262"N	104°54'45.221"W	1.03	
10000.00	88.680	359.060	7831.08	2318.03	2257.43	-611.20	40°00'51.102"N	104°54'45.241"W	1.55	
10085.00	88.250	359.140	7833.36	2402.43	2342.39	-612.53	40°00'51.941"N	104°54'45.259"W	0.51	
10170.00	88.890	359.750	7835.48	2486.77	2427.36	-613.36	40°00'52.781"N	104°54'45.269"W	1.04	
10256.00	89.050	0.280	7837.03	2572.01	2513.34	-613.34	40°00'53.631"N	104°54'45.269"W	0.64	
10341.00	89.880	0.440	7837.82	2656.21	2598.34	-612.80	40°00'54.470"N	104°54'45.262"W	0.99	
10426.00	90.060	0.700	7837.87	2740.36	2683.33	-611.96	40°00'55.310"N	104°54'45.251"W	0.37	
10511.00	89.720	1.040	7838.03	2824.45	2768.32	-610.67	40°00'56.150"N	104°54'45.235"W	0.57	
10597.00	90.990	0.470	7837.50	2909.55	2854.31	-609.53	40°00'57.000"N	104°54'45.220"W	1.62	
10682.00	90.800	359.420	7836.17	2993.82	2939.30	-609.61	40°00'57.840"N	104°54'45.221"W	1.26	
10767.00	90.740	359.840	7835.03	3078.15	3024.29	-610.16	40°00'58.680"N	104°54'45.228"W	0.50	
10852.00	90.210	359.750	7834.32	3162.45	3109.29	-610.47	40°00'59.520"N	104°54'45.232"W	0.63	
10938.00	90.490	0.090	7833.80	3247.72	3195.28	-610.59	40°01'00.370"N	104°54'45.234"W	0.51	



# Actual Wellpath Report

HOWARD 10C-29HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 HOWARD 10C-29HZ (2491'FNL & 1549'FEL, SEC.32)
Area	COLORADO	Well	HOWARD 10C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 10C-29HZ AWB
Facility	SEC.32-T1N-R67W		

## WELLPATH DATA (155 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11023.00	89.690	359.490	7833.66	3332.03	3280.28	-610.90	40°01'01.210"N	104°54'45.238"W	1.18	
11108.00	89.630	359.270	7834.17	3416.41	3365.28	-611.82	40°01'02.050"N	104°54'45.250"W	0.27	
11193.00	89.410	359.640	7834.88	3500.78	3450.27	-612.63	40°01'02.890"N	104°54'45.260"W	0.51	
11279.00	89.320	359.900	7835.83	3586.08	3536.26	-612.97	40°01'03.739"N	104°54'45.265"W	0.32	
11364.00	89.600	0.090	7836.63	3670.34	3621.26	-612.98	40°01'04.579"N	104°54'45.265"W	0.40	
11449.00	90.400	0.100	7836.63	3754.59	3706.26	-612.84	40°01'05.419"N	104°54'45.263"W	0.94	
11534.00	90.800	0.240	7835.74	3838.82	3791.25	-612.59	40°01'06.259"N	104°54'45.260"W	0.50	
11584.00	90.950	0.330	7834.98	3888.35	3841.25	-612.34	40°01'06.753"N	104°54'45.256"W	0.35	
11627.00	91.530	359.870	7834.05	3930.96	3884.24	-612.26	40°01'07.178"N	104°54'45.255"W	1.72	
11670.00	91.600	0.100	7832.87	3973.58	3927.22	-612.27	40°01'07.603"N	104°54'45.256"W	0.56	
11712.00	92.160	0.340	7831.50	4015.17	3969.20	-612.11	40°01'08.018"N	104°54'45.254"W	1.45	
11755.00	92.310	0.480	7829.82	4057.73	4012.16	-611.80	40°01'08.442"N	104°54'45.250"W	0.48	
11840.00	92.550	0.360	7826.22	4141.84	4097.08	-611.18	40°01'09.282"N	104°54'45.242"W	0.32	
11925.00	92.840	0.690	7822.22	4225.91	4181.99	-610.40	40°01'10.121"N	104°54'45.232"W	0.52	
12011.00	92.430	0.380	7818.26	4310.97	4267.89	-609.60	40°01'10.970"N	104°54'45.221"W	0.60	
12096.00	92.370	0.750	7814.71	4395.05	4352.81	-608.76	40°01'11.809"N	104°54'45.211"W	0.44	
12182.00	92.090	0.690	7811.36	4480.09	4438.74	-607.68	40°01'12.658"N	104°54'45.197"W	0.33	
12267.00	90.460	1.030	7809.47	4564.16	4523.71	-606.41	40°01'13.498"N	104°54'45.180"W	1.96	
12281.00	90.460	1.190	7809.36	4578.00	4537.70	-606.14	40°01'13.636"N	104°54'45.177"W	1.14	Last BHI MWD Survey
12351.00	90.460	1.190	7808.79	4647.19	4607.69	-604.68	40°01'14.327"N	104°54'45.158"W	0.00	Projection to Bit

## HOLE & CASING SECTIONS - Ref Wellbore: HOWARD 10C-29HZ AWB Ref Wellpath: HOWARD 10C-29HZ 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]
12.25in Open Hole	16.00	1156.00	1140.00	16.00	1155.97	0.00	0.00	-1.64	-5.29
9.625in Casing Surface	16.00	1156.00	1140.00	16.00	1155.97	0.00	0.00	-1.64	-5.29
8.75in Open Hole	1156.00	8332.00	7176.00	1155.97	7840.78	-1.64	-5.29	589.79	-609.92
7in Casing Intermediate	16.00	8322.00	8306.00	16.00	7840.54	0.00	0.00	579.80	-609.91
6.125in Open Hole	8322.00	12351.00	4029.00	7840.54	7808.79	579.80	-609.91	4607.69	-604.68



# Actual Wellpath Report

HOWARD 10C-29HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 HOWARD 10C-29HZ (2491'FNL & 1549'FEL, SEC.32)
Area	COLORADO	Well	HOWARD 10C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 10C-29HZ AWB
Facility	SEC.32-T1N-R67W		

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
HOWARD PAD SECTION 29 S. HALF LINES		0.00	0.00	24.12	3165186.29	1246309.57	40°00'28.793"N	104°54'37.076"W	polygon
HOWARD PAD SECTION 32 N. HALF LINES		0.00	0.00	24.12	3165186.29	1246309.57	40°00'28.793"N	104°54'37.076"W	polygon
HOWARD 10C-29HZ BHL (2180'FSL & 2150'FEL,SEC.29, REV-3)		7813.00	4670.48	-616.88	3164514.27	1250975.52	40°01'14.948"N	104°54'45.315"W	point
HOWARD 10C-29HZ BHL (2180'FSL & 2150'FEL,SEC.29, REV-2)		7819.00	4670.48	-616.88	3164514.27	1250975.52	40°01'14.948"N	104°54'45.315"W	point
HOWARD 10C-29HZ BHL ON PLAT (2180'FSL & 2130'FEL,SEC.29, REV-1)		7819.00	4670.48	-596.88	3164534.27	1250975.65	<b>40°01'14.948"N</b>	<b>104°54'45.058"W</b>	point
HOWARD PAD HARDLINES SEC.32/29 (460' SETBACKS)		7850.00	0.00	24.12	3165186.29	1246309.57	40°00'28.793"N	104°54'37.076"W	polygon

## WELLPATH COMPOSITION - Ref Wellbore: HOWARD 10C-29HZ AWB Ref Wellpath: HOWARD 10C-29HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	1109.00	NaviTrak (Standard)	BHI MWD SURVEYS 12 1/4" HOLE <149-1109>	HOWARD 10C-29HZ AWB
1109.00	8277.00	NaviTrak (Standard)	BHI MWD SURVEYS 8 3/4" HOLE <1253-8277>	HOWARD 10C-29HZ AWB
8277.00	12281.00	OnTrak (Standard)	BHI MWD SURVEYS 6 1/8" HOLE <8330-12281>	HOWARD 10C-29HZ AWB
12281.00	12351.00	Blind Drilling (std)	Projection to bit	HOWARD 10C-29HZ AWB



# Actual Wellpath Report

HOWARD 10C-29HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 HOWARD 10C-29HZ (2491'FNL & 1549'FEL, SEC.32)
Area	COLORADO	Well	HOWARD 10C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 10C-29HZ AWB
Facility	SEC.32-T1N-R67W		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	242.020	16.00	Tie-On
149.00	0.230	242.020	149.00	Begin BHI MWD Surveys
8322.00	88.305	359.855	7840.54	7" Casing Point
12281.00	90.460	1.190	7809.36	Last BHI MWD Survey
12351.00	90.460	1.190	7808.79	Projection to Bit