

## KERR-MCGEE OIL &amp; GAS ONSHORE LP

Location:	COLORADO	Slot:	SLOT#18 HOWARD 30C-29HZ (2287'FNL & 390'FWL, SEC.32)
Field:	WELD COUNTY (KERR MCGEE)	Well:	HOWARD 30C-29HZ
Facility:	SEC.32-T1N-R67W	Wellbore:	HOWARD 30C-29HZ PWB

Plot reference wellpath is HOWARD 30C-29HZ (REV-A.0) PWP

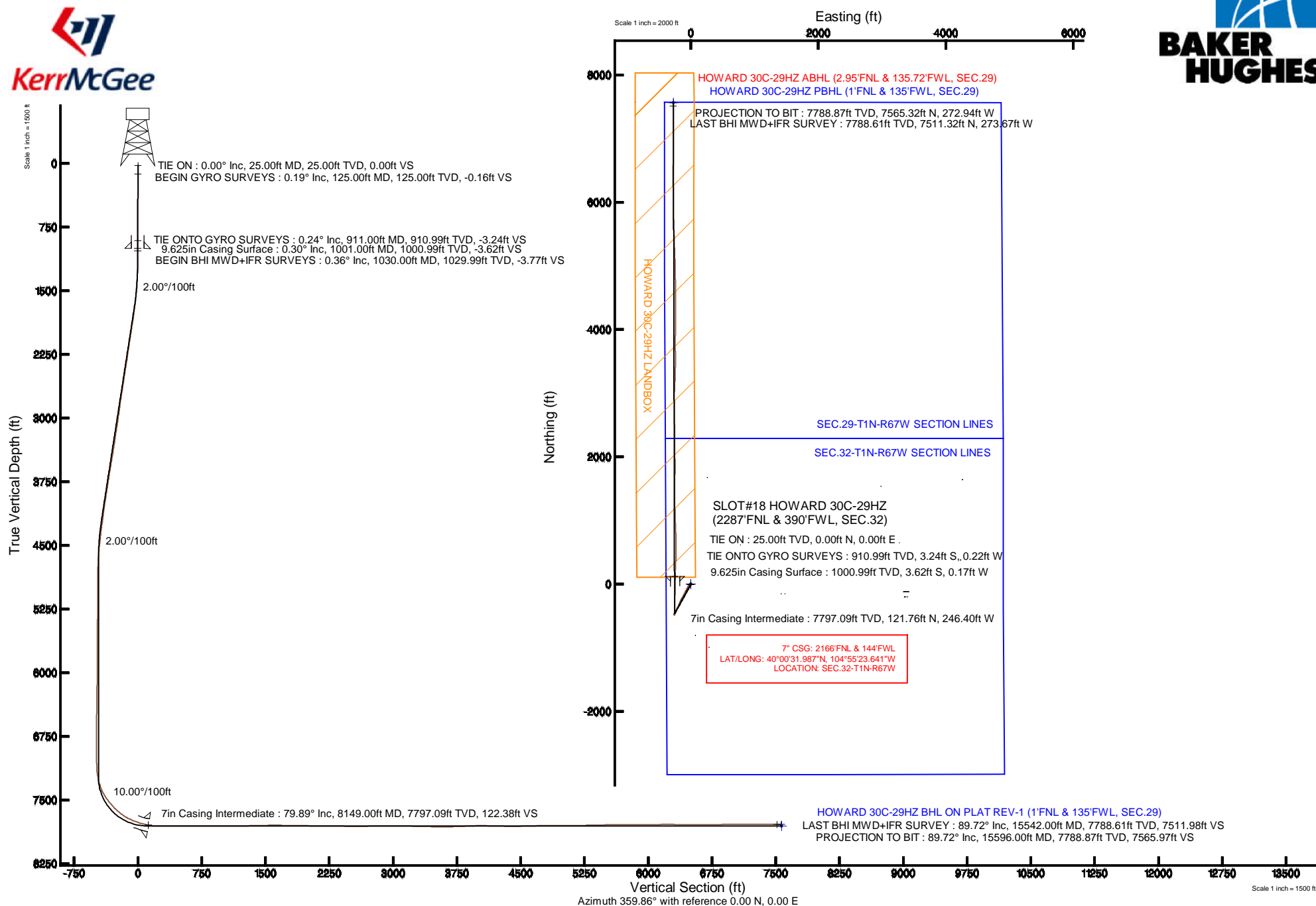
Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet

North Reference: True north

Scale: True distance

Depths are in feet

Created by: rnhiale01 on 31/Jul/2014



# Actual Wellpath Report

HOWARD 30C-29HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#18 HOWARD 30C-29HZ (2287'FNL & 390'FWL, SEC.32)
Area	COLORADO	Well	HOWARD 30C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 30C-29HZ AWB
Facility	SEC.32-T1N-R67W		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Robiale01
Scale	0.999966	Report Generated	31/Jul/2014 at 11:08
Convergence at slot	n/a	Database/Source file	WellArchitectDB/HOWARD_30C-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	201.70	-3352.83	3161808.20	1246488.81	40°00'30.784"N	104°55'20.474"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	PRECISION 595 (25'KB) (RKB) to Facility Vertical Datum	5056.00ft
Horizontal Reference Pt	Slot	PRECISION 595 (25'KB) (RKB) to Mean Sea Level	5056.00ft
Vertical Reference Pt	PRECISION 595 (25'KB) (RKB)	PRECISION 595 (25'KB) (RKB) to Mud Line at Slot (SLOT#18 HOWARD 30C-29HZ (2287'FNL & 390'FWL, SEC.32))	5056.00ft
MD Reference Pt	PRECISION 595 (25'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	357.93°

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HOWARD 30C-29HZ AWP

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Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 30C-29HZ AWB
Facility	SEC.32-T1N-R67W		

WELLPATH DATA (139 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	195.380	0.00	0.00	0.00	0.00	40°00'30.784"N	104°55'20.474"W	0.00	
25.00	0.000	195.380	25.00	0.00	0.00	0.00	40°00'30.784"N	104°55'20.474"W	0.00	TIE ON
125.00	0.190	195.380	125.00	-0.16	-0.16	-0.04	40°00'30.782"N	104°55'20.475"W	0.19	BEGIN GYRO SURVEYS
225.00	0.140	197.300	225.00	-0.43	-0.44	-0.12	40°00'30.780"N	104°55'20.476"W	0.05	
325.00	0.250	203.150	325.00	-0.74	-0.75	-0.25	40°00'30.777"N	104°55'20.477"W	0.11	
425.00	0.360	203.570	425.00	-1.22	-1.24	-0.46	40°00'30.772"N	104°55'20.480"W	0.11	
525.00	0.340	181.360	525.00	-1.80	-1.83	-0.59	40°00'30.766"N	104°55'20.482"W	0.14	
625.00	0.310	185.660	624.99	-2.37	-2.39	-0.62	40°00'30.760"N	104°55'20.482"W	0.04	
725.00	0.210	142.480	724.99	-2.79	-2.81	-0.54	40°00'30.756"N	104°55'20.481"W	0.21	
825.00	0.110	148.080	824.99	-3.02	-3.03	-0.38	40°00'30.754"N	104°55'20.479"W	0.10	
911.00	0.240	141.070	910.99	-3.23	-3.24	-0.22	40°00'30.752"N	104°55'20.477"W	0.15	TIE ONTO GYRO SURVEYS
1030.00	0.360	206.460	1029.99	-3.76	-3.77	-0.23	40°00'30.747"N	104°55'20.477"W	0.29	BEGIN BHI MWD+IFR SURVEYS
1093.00	0.410	218.130	1092.99	-4.11	-4.13	-0.46	40°00'30.743"N	104°55'20.480"W	0.15	
1188.00	1.460	241.470	1187.98	-4.91	-4.97	-1.73	40°00'30.735"N	104°55'20.496"W	1.15	
1282.00	3.170	231.920	1281.90	-6.97	-7.15	-4.83	40°00'30.713"N	104°55'20.536"W	1.86	
1377.00	5.450	236.600	1376.62	-10.86	-11.25	-10.66	40°00'30.673"N	104°55'20.611"W	2.43	
1472.00	6.610	233.090	1471.09	-16.33	-17.02	-18.80	40°00'30.616"N	104°55'20.716"W	1.28	
1566.00	7.830	223.500	1564.35	-23.90	-24.91	-27.54	40°00'30.538"N	104°55'20.828"W	1.82	
1661.00	8.470	219.130	1658.39	-33.70	-35.03	-36.41	40°00'30.438"N	104°55'20.942"W	0.94	
1756.00	8.880	213.760	1752.31	-44.91	-46.56	-44.90	40°00'30.324"N	104°55'21.051"W	0.96	
1851.00	10.200	207.360	1845.99	-58.18	-60.13	-52.84	40°00'30.190"N	104°55'21.153"W	1.78	
1945.00	9.840	207.050	1938.56	-72.45	-74.67	-60.32	40°00'30.046"N	104°55'21.249"W	0.39	
2040.00	9.060	205.370	2032.27	-86.18	-88.66	-67.21	40°00'29.908"N	104°55'21.338"W	0.87	
2135.00	10.300	208.660	2125.92	-100.12	-102.87	-74.49	40°00'29.767"N	104°55'21.431"W	1.43	
2229.00	9.700	208.710	2218.49	-114.15	-117.19	-82.32	40°00'29.626"N	104°55'21.532"W	0.64	
2324.00	9.640	209.270	2312.14	-127.82	-131.15	-90.06	40°00'29.488"N	104°55'21.631"W	0.12	
2419.00	10.120	204.590	2405.73	-142.07	-145.68	-97.42	40°00'29.344"N	104°55'21.726"W	0.98	
2609.00	8.880	204.690	2593.12	-170.08	-174.18	-110.49	40°00'29.063"N	104°55'21.894"W	0.65	
2703.00	10.430	210.700	2685.79	-183.72	-188.09	-117.87	40°00'28.925"N	104°55'21.989"W	1.96	
2893.00	8.800	209.340	2873.11	-210.59	-215.55	-133.77	40°00'28.654"N	104°55'22.193"W	0.87	
2986.00	9.690	210.230	2964.90	-223.27	-228.51	-141.20	40°00'28.526"N	104°55'22.289"W	0.97	
3076.00	9.350	204.450	3053.67	-236.22	-241.71	-148.04	40°00'28.395"N	104°55'22.376"W	1.13	
3166.00	10.160	205.930	3142.36	-249.77	-255.51	-154.53	40°00'28.259"N	104°55'22.460"W	0.94	
3256.00	8.990	206.200	3231.11	-262.97	-268.96	-161.11	40°00'28.126"N	104°55'22.544"W	1.30	
3345.00	9.280	199.600	3318.98	-275.77	-281.96	-166.59	40°00'27.998"N	104°55'22.615"W	1.22	
3435.00	10.110	204.600	3407.70	-289.57	-295.98	-172.31	40°00'27.859"N	104°55'22.688"W	1.31	
3525.00	10.330	201.490	3496.27	-304.03	-310.67	-178.55	40°00'27.714"N	104°55'22.769"W	0.66	
3615.00	9.940	205.880	3584.87	-318.29	-325.16	-184.90	40°00'27.571"N	104°55'22.850"W	0.96	
3705.00	10.430	205.040	3673.45	-332.40	-339.53	-191.74	40°00'27.429"N	104°55'22.938"W	0.57	
3794.00	9.120	204.090	3761.16	-345.90	-353.27	-198.03	40°00'27.293"N	104°55'23.019"W	1.48	
3884.00	10.710	207.580	3849.81	-359.57	-367.20	-204.81	40°00'27.155"N	104°55'23.106"W	1.89	
3974.00	9.420	208.770	3938.42	-373.17	-381.07	-212.23	40°00'27.018"N	104°55'23.201"W	1.45	
4064.00	9.620	205.990	4027.18	-386.13	-394.28	-219.07	40°00'26.888"N	104°55'23.289"W	0.56	
4154.00	7.840	204.080	4116.14	-398.27	-406.65	-224.87	40°00'26.765"N	104°55'23.364"W	2.00	
4243.00	8.070	201.860	4204.28	-409.43	-417.99	-229.67	40°00'26.653"N	104°55'23.426"W	0.43	

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Area	COLORADO	Well	HOWARD 30C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 30C-29HZ AWB
Facility	SEC.32-T1N-R67W		

### WELLPATH DATA (139 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4333.00	8.170	198.980	4293.38	-421.18	-429.90	-234.10	40°00'26.536"N	104°55'23.482"W	0.47	
4423.00	6.820	202.860	4382.61	-431.99	-440.87	-238.26	40°00'26.427"N	104°55'23.536"W	1.60	
4513.00	7.210	204.100	4471.93	-441.91	-450.95	-242.64	40°00'26.328"N	104°55'23.592"W	0.46	
4603.00	6.160	206.330	4561.32	-451.22	-460.43	-247.09	40°00'26.234"N	104°55'23.649"W	1.20	
4693.00	3.410	221.550	4651.00	-457.41	-466.76	-251.01	40°00'26.171"N	104°55'23.700"W	3.34	
4783.00	3.090	210.440	4740.86	-461.39	-470.86	-254.01	40°00'26.131"N	104°55'23.738"W	0.78	
4872.00	1.900	232.780	4829.77	-464.27	-473.82	-256.40	40°00'26.102"N	104°55'23.769"W	1.70	
4962.00	0.330	283.610	4919.76	-465.05	-474.66	-257.84	40°00'26.093"N	104°55'23.788"W	1.90	
5322.00	0.360	173.010	5279.75	-465.90	-475.54	-258.71	40°00'26.085"N	104°55'23.799"W	0.16	
5681.00	1.000	96.970	5638.73	-467.52	-477.04	-255.47	40°00'26.070"N	104°55'23.757"W	0.27	
5771.00	0.620	235.200	5728.73	-467.90	-477.41	-255.09	40°00'26.066"N	104°55'23.752"W	1.69	
6130.00	0.680	216.040	6087.70	-470.63	-480.24	-257.94	40°00'26.038"N	104°55'23.789"W	0.06	
6489.00	1.280	209.360	6446.65	-475.73	-485.46	-261.15	40°00'25.987"N	104°55'23.830"W	0.17	
6579.00	0.810	267.660	6536.64	-476.59	-486.36	-262.28	40°00'25.978"N	104°55'23.845"W	1.22	
6669.00	0.940	231.410	6626.63	-477.03	-486.85	-263.50	40°00'25.973"N	104°55'23.860"W	0.62	
6759.00	0.810	184.340	6716.62	-478.10	-487.94	-264.12	40°00'25.962"N	104°55'23.868"W	0.79	
6849.00	0.580	35.340	6806.61	-478.37	-488.21	-263.91	40°00'25.959"N	104°55'23.865"W	1.49	
6939.00	0.670	51.360	6896.61	-477.70	-487.51	-263.23	40°00'25.966"N	104°55'23.857"W	0.22	
7028.00	0.640	33.760	6985.60	-476.98	-486.77	-262.55	40°00'25.974"N	104°55'23.848"W	0.23	
7118.00	0.640	37.210	7075.60	-476.19	-485.95	-261.97	40°00'25.982"N	104°55'23.841"W	0.04	
7208.00	5.070	5.690	7165.47	-471.86	-481.59	-261.27	40°00'26.025"N	104°55'23.832"W	5.04	
7253.00	9.430	11.980	7210.10	-466.31	-476.00	-260.30	40°00'26.080"N	104°55'23.819"W	9.83	
7298.00	12.550	14.750	7254.27	-458.05	-467.67	-258.29	40°00'26.162"N	104°55'23.793"W	7.03	
7343.00	15.850	12.300	7297.88	-447.41	-456.93	-255.74	40°00'26.268"N	104°55'23.761"W	7.45	
7388.00	19.770	8.320	7340.72	-433.97	-443.39	-253.33	40°00'26.402"N	104°55'23.730"W	9.12	
7432.00	24.100	5.270	7381.53	-417.73	-427.07	-251.42	40°00'26.564"N	104°55'23.705"W	10.17	
7477.00	27.960	2.320	7421.96	-398.09	-407.38	-250.15	40°00'26.758"N	104°55'23.689"W	9.04	
7522.00	31.880	358.990	7460.96	-375.68	-384.94	-249.94	40°00'26.980"N	104°55'23.686"W	9.46	
7567.00	35.770	357.910	7498.33	-350.64	-359.91	-250.63	40°00'27.227"N	104°55'23.695"W	8.75	
7612.00	39.160	358.640	7534.04	-323.27	-332.55	-251.44	40°00'27.498"N	104°55'23.705"W	7.60	
7657.00	42.440	359.130	7568.10	-293.88	-303.16	-252.01	40°00'27.788"N	104°55'23.713"W	7.32	
7702.00	45.480	0.310	7600.49	-262.66	-271.93	-252.15	40°00'28.097"N	104°55'23.714"W	7.00	
7747.00	48.510	1.850	7631.18	-229.81	-239.03	-251.52	40°00'28.422"N	104°55'23.706"W	7.18	
7792.00	52.460	2.740	7659.81	-195.20	-204.35	-250.13	40°00'28.765"N	104°55'23.688"W	8.91	
7837.00	56.620	2.530	7685.91	-158.68	-167.74	-248.44	40°00'29.126"N	104°55'23.667"W	9.25	
7881.00	61.100	1.650	7708.66	-121.13	-130.12	-247.08	40°00'29.498"N	104°55'23.649"W	10.32	
7926.00	65.150	359.850	7729.00	-81.05	-89.99	-246.56	40°00'29.895"N	104°55'23.643"W	9.68	
7971.00	68.300	359.610	7746.78	-39.73	-48.66	-246.76	40°00'30.303"N	104°55'23.645"W	7.02	
8016.00	70.330	0.200	7762.67	2.34	-6.57	-246.83	40°00'30.719"N	104°55'23.646"W	4.67	
8061.00	73.860	359.880	7776.51	45.12	36.25	-246.80	40°00'31.142"N	104°55'23.646"W	7.87	
8106.00	76.130	0.160	7788.15	88.56	79.71	-246.78	40°00'31.572"N	104°55'23.645"W	5.08	
8149.00†	79.890	0.877	7797.09	130.57	121.76	-246.40	40°00'31.987"N	104°55'23.641"W	8.90	7" CASING POINT
8173.00	81.990	1.270	7800.87	154.23	145.46	-245.95	40°00'32.221"N	104°55'23.635"W	8.90	
8218.00	86.380	3.010	7805.42	198.87	190.18	-244.28	40°00'32.663"N	104°55'23.613"W	10.49	
8263.00	89.590	3.090	7807.01	243.65	235.09	-241.89	40°00'33.107"N	104°55'23.583"W	7.14	

# Actual Wellpath Report

HOWARD 30C-29HZ AWP

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Area	COLORADO	Well	HOWARD 30C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 30C-29HZ AWB
Facility	SEC.32-T1N-R67W		

## WELLPATH DATA (139 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8353.00	90.210	2.760	7807.16	333.31	324.97	-237.30	40°00'33.995"N	104°55'23.524"W	0.78	
8443.00	90.860	2.470	7806.32	423.01	414.87	-233.19	40°00'34.884"N	104°55'23.471"W	0.79	
8622.00	89.170	359.790	7806.28	601.71	593.81	-229.66	40°00'36.652"N	104°55'23.425"W	1.77	
8802.00	90.400	357.420	7806.95	781.68	773.74	-234.04	40°00'38.430"N	104°55'23.482"W	1.48	
8892.00	90.370	357.610	7806.35	871.67	863.65	-237.94	40°00'39.319"N	104°55'23.532"W	0.21	
8982.00	89.970	358.080	7806.08	961.67	953.59	-241.33	40°00'40.208"N	104°55'23.575"W	0.69	
9161.00	90.120	358.130	7805.94	1140.67	1132.49	-247.25	40°00'41.976"N	104°55'23.652"W	0.09	
9341.00	91.080	359.340	7804.05	1320.64	1312.43	-251.22	40°00'43.754"N	104°55'23.703"W	0.86	
9520.00	91.420	0.620	7800.15	1499.48	1491.39	-251.28	40°00'45.522"N	104°55'23.704"W	0.74	
9610.00	90.220	0.470	7798.86	1589.37	1581.37	-250.43	40°00'46.412"N	104°55'23.693"W	1.34	
9790.00	88.580	1.170	7800.75	1769.13	1761.34	-247.85	40°00'48.190"N	104°55'23.659"W	0.99	
9969.00	89.530	358.630	7803.70	1947.98	1940.29	-248.17	40°00'49.959"N	104°55'23.663"W	1.51	
10149.00	89.470	359.740	7805.27	2127.93	2120.27	-250.73	40°00'51.737"N	104°55'23.696"W	0.62	
10328.00	89.160	359.380	7807.41	2306.84	2299.25	-252.10	40°00'53.506"N	104°55'23.714"W	0.27	
10508.00	89.070	358.860	7810.19	2486.78	2479.20	-254.86	40°00'55.284"N	104°55'23.750"W	0.29	
10687.00	91.050	358.200	7810.00	2665.76	2658.14	-259.46	40°00'57.052"N	104°55'23.809"W	1.17	
10867.00	90.770	0.720	7807.14	2845.66	2838.09	-261.15	40°00'58.831"N	104°55'23.831"W	1.41	
11047.00	90.310	2.720	7805.45	3025.25	3017.99	-255.75	40°01'00.609"N	104°55'23.761"W	1.14	
11136.00	88.490	2.320	7806.38	3113.96	3106.90	-251.84	40°01'01.487"N	104°55'23.711"W	2.09	
11316.00	88.770	2.100	7810.68	3293.40	3286.71	-244.90	40°01'03.264"N	104°55'23.622"W	0.20	
11495.00	88.460	0.020	7815.01	3472.08	3465.62	-241.59	40°01'05.032"N	104°55'23.579"W	1.17	
11585.00	89.750	359.970	7816.41	3562.00	3555.61	-241.59	40°01'05.922"N	104°55'23.579"W	1.43	
11765.00	92.090	359.300	7813.52	3741.89	3735.56	-242.74	40°01'07.700"N	104°55'23.594"W	1.35	
11945.00	92.650	1.250	7806.08	3921.57	3915.40	-241.88	40°01'09.477"N	104°55'23.583"W	1.13	
12124.00	88.700	1.290	7803.97	4100.22	4094.31	-237.91	40°01'11.245"N	104°55'23.532"W	2.21	
12304.00	88.330	0.090	7808.64	4279.95	4274.23	-235.74	40°01'13.023"N	104°55'23.504"W	0.70	
12484.00	90.800	359.410	7810.00	4459.84	4454.21	-236.53	40°01'14.802"N	104°55'23.514"W	1.42	
12663.00	91.810	359.270	7805.93	4638.74	4633.15	-238.59	40°01'16.570"N	104°55'23.541"W	0.57	
12798.00	91.230	358.040	7802.35	4773.68	4768.06	-241.76	40°01'17.903"N	104°55'23.582"W	1.01	
12933.00	89.100	359.300	7801.96	4908.65	4903.01	-244.89	40°01'19.237"N	104°55'23.622"W	1.83	
13023.00	90.190	358.790	7802.51	4998.63	4993.00	-246.39	40°01'20.126"N	104°55'23.641"W	1.34	
13112.00	90.680	358.710	7801.84	5087.62	5081.97	-248.33	40°01'21.006"N	104°55'23.666"W	0.56	
13202.00	90.490	357.750	7800.92	5177.62	5171.92	-251.11	40°01'21.894"N	104°55'23.702"W	1.09	
13292.00	91.270	357.880	7799.54	5267.60	5261.85	-254.54	40°01'22.783"N	104°55'23.746"W	0.88	
13472.00	91.480	358.330	7795.22	5447.55	5441.70	-260.50	40°01'24.560"N	104°55'23.822"W	0.28	
13651.00	89.560	358.140	7793.59	5626.53	5620.60	-266.01	40°01'26.328"N	104°55'23.893"W	1.08	
13831.00	90.370	359.330	7793.70	5806.51	5800.55	-269.98	40°01'28.107"N	104°55'23.944"W	0.80	
14011.00	90.860	358.640	7791.77	5986.47	5980.51	-273.17	40°01'29.885"N	104°55'23.985"W	0.47	
14190.00	90.800	0.020	7789.18	6165.39	6159.47	-275.26	40°01'31.654"N	104°55'24.012"W	0.77	
14370.00	88.610	359.840	7790.11	6345.27	6339.46	-275.48	40°01'33.432"N	104°55'24.015"W	1.22	
14550.00	89.590	0.040	7792.93	6525.13	6519.43	-275.67	40°01'35.211"N	104°55'24.018"W	0.56	
14729.00	90.830	1.230	7792.28	6703.93	6698.41	-273.69	40°01'36.980"N	104°55'23.992"W	0.96	
14909.00	91.420	0.460	7788.74	6883.66	6878.36	-271.03	40°01'38.758"N	104°55'23.958"W	0.54	
14999.00	89.940	359.460	7787.67	6973.59	6968.35	-271.10	40°01'39.647"N	104°55'23.959"W	1.98	
15178.00	90.280	359.350	7787.33	7152.53	7147.34	-272.96	40°01'41.416"N	104°55'23.983"W	0.20	

### REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#18 HOWARD 30C-29HZ (2287'FNL & 390'FWL, SEC.32)
Area	COLORADO	Well	HOWARD 30C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 30C-29HZ AWB
Facility	SEC.32-T1N-R67W		

### WELLPATH DATA (139 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
15358.00	89.450	359.630	7787.75	7332.46	7327.33	-274.56	40°01'43.195"N	104°55'24.003"W	0.49	
15448.00	89.880	0.340	7788.28	7422.40	7417.33	-274.58	40°01'44.084"N	104°55'24.004"W	0.92	
15542.00	89.720	0.770	7788.61	7516.30	7511.32	-273.67	40°01'45.013"N	104°55'23.992"W	0.49	LAST BHI MWD+IFR SURVEY
15596.00	89.720	0.770	7788.87	7570.24	7565.32	-272.94	40°01'45.547"N	104°55'23.983"W	0.00	PROJECTION TO BIT

### HOLE & CASING SECTIONS - Ref Wellbore: HOWARD 30C-29HZ AWB Ref Wellpath: HOWARD 30C-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]
13.5in Open Hole	25.00	1011.00	986.00	25.00	1010.99	0.00	0.00	-3.67	-0.19
9.625in Casing Surface	25.00	1001.00	976.00	25.00	1000.99	0.00	0.00	-3.62	-0.17
8.75in Open Hole	1011.00	8161.00	7150.00	1010.99	7799.08	-3.67	-0.19	133.59	-246.20
7in Casing Intermediate	25.00	8149.00	8124.00	25.00	7797.09	0.00	0.00	121.76	-246.40
6.125in Open Hole	8161.00	15596.00	7435.00	7799.08	7788.87	133.59	-246.20	7565.32	-272.94

### WELLPATH COMPOSITION - Ref Wellbore: HOWARD 30C-29HZ AWB Ref Wellpath: HOWARD 30C-29HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	911.00	Generic gyro - continuous (Standard)	MS GYRO SURVEYS <125-911>	HOWARD 30C-29HZ AWB
911.00	8106.00	NaviTrak (MAGCORR,IFR)	BHI NAVITRAK MWD+IFR 8 3/4" <1030-8106>	HOWARD 30C-29HZ AWB
8106.00	15542.00	NaviTrak (MAGCORR,IFR)	BHI NAVITRAK MWD+IFR 6 1/8" <8173-15542>	HOWARD 30C-29HZ AWB
15542.00	15596.00	Blind Drilling (std)	Projection to bit	HOWARD 30C-29HZ AWB



# Actual Wellpath Report

HOWARD 30C-29HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#18 HOWARD 30C-29HZ (2287'FNL & 390'FWL, SEC.32)
Area	COLORADO	Well	HOWARD 30C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 30C-29HZ AWB
Facility	SEC.32-T1N-R67W		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
25.00	0.000	195.380	25.00	TIE ON
125.00	0.190	195.380	125.00	BEGIN GYRO SURVEYS
911.00	0.240	141.070	910.99	TIE ONTO GYRO SURVEYS
1030.00	0.360	206.460	1029.99	BEGIN BHI MWD+IFR SURVEYS
8149.00	79.890	0.877	7797.09	7" CASING POINT
15542.00	89.720	0.770	7788.61	LAST BHI MWD+IFR SURVEY
15596.00	89.720	0.770	7788.87	PROJECTION TO BIT