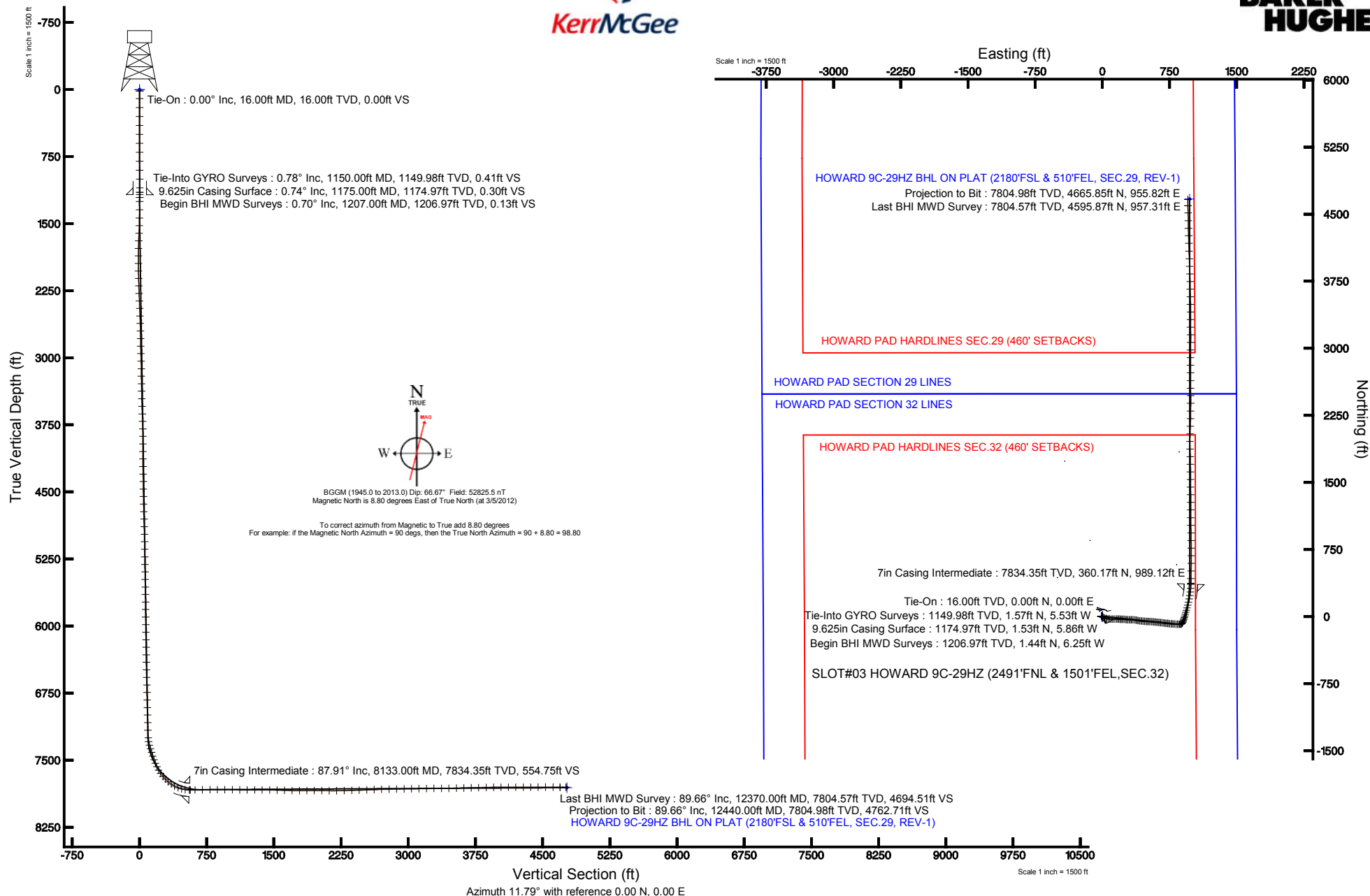


KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#03 HOWARD 9C-29HZ (2491'FNL & 1501'FEL,SEC.32)
 Field: WELD COUNTY (KERR MCGEE) Well: HOWARD 9C-29HZ
 Facility: SEC.32-T1N-R67W Wellbore: HOWARD 9C-29HZ PWB

Plot reference wellpath is HOWARD 9C-29HZ (REV-A.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#03 HOWARD 9C-29HZ (2491'FNL & 1501'FEL,SEC.32)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wilsjeff02 on 3/15/2012





Actual Wellpath Report

HOWARD 9C-29HZ AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 HOWARD 9C-29HZ (2491'FNL & 1501'FEL,SEC.32)
Area	COLORADO	Well	HOWARD 9C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 9C-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	3/15/2012 at 08:47:45
Convergence at slot	0.38° East	Database/Source file	WellArchitectDB/HOWARD_9C-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	47.93	3165210.10	1246309.73	40°00'28.793"N	104°54'36.770"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#03 HOWARD 9C-29HZ (2491'FNL & 1501'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	11.79°



Actual Wellpath Report

HOWARD 9C-29HZ AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 HOWARD 9C-29HZ (2491'FNL & 1501'FEL,SEC.32)
Area	COLORADO	Well	HOWARD 9C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 9C-29HZ AWB
Facility	SEC.32-T1N-R67W		

WELLPATH DATA (145 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
1150.00	0.780	264.410	1149.98	0.41	1.57	-5.53	40°00'28.809"N	104°54'36.841"W	0.44	Tie-Into GYRO Surveys
1207.00	0.700	254.630	1206.97	0.13	1.44	-6.25	40°00'28.807"N	104°54'36.850"W	0.26	Begin BHI MWD Surveys
1252.00	0.480	213.740	1251.97	-0.17	1.21	-6.62	40°00'28.805"N	104°54'36.855"W	1.02	
1344.00	1.510	135.130	1343.96	-1.19	0.03	-5.98	40°00'28.793"N	104°54'36.847"W	1.62	
1436.00	2.900	122.390	1435.89	-2.67	-2.07	-3.16	40°00'28.773"N	104°54'36.811"W	1.59	
1522.00	4.370	121.700	1521.71	-4.56	-4.96	1.46	40°00'28.744"N	104°54'36.751"W	1.71	
1607.00	5.380	121.530	1606.40	-7.00	-8.75	7.62	40°00'28.707"N	104°54'36.672"W	1.19	
1692.00	7.200	119.640	1690.89	-9.98	-13.46	15.64	40°00'28.660"N	104°54'36.569"W	2.15	
1778.00	8.900	112.290	1776.04	-12.85	-18.65	26.48	40°00'28.609"N	104°54'36.430"W	2.31	
1863.00	9.600	103.760	1859.94	-14.29	-22.83	39.45	40°00'28.567"N	104°54'36.263"W	1.81	
1948.00	9.240	100.430	1943.79	-14.37	-25.75	53.05	40°00'28.538"N	104°54'36.088"W	0.77	
2034.00	9.870	94.300	2028.60	-13.24	-27.56	67.19	40°00'28.521"N	104°54'35.907"W	1.39	
2119.00	10.040	92.190	2112.32	-11.05	-28.39	81.86	40°00'28.512"N	104°54'35.718"W	0.47	
2204.00	10.410	91.390	2195.97	-8.43	-28.86	96.94	40°00'28.508"N	104°54'35.524"W	0.47	
2290.00	10.790	90.050	2280.50	-5.39	-29.05	112.76	40°00'28.506"N	104°54'35.321"W	0.53	
2375.00	9.960	89.850	2364.11	-2.25	-29.04	128.06	40°00'28.506"N	104°54'35.124"W	0.98	
2460.00	10.100	90.390	2447.81	0.75	-29.07	142.87	40°00'28.506"N	104°54'34.934"W	0.20	
2546.00	10.630	89.080	2532.41	3.98	-28.99	158.34	40°00'28.506"N	104°54'34.735"W	0.67	
2631.00	8.900	90.080	2616.18	7.04	-28.88	172.75	40°00'28.508"N	104°54'34.550"W	2.04	
2717.00	8.380	96.260	2701.20	9.00	-29.57	185.64	40°00'28.501"N	104°54'34.384"W	1.24	
2802.00	7.960	93.940	2785.34	10.40	-30.65	197.67	40°00'28.490"N	104°54'34.230"W	0.63	
2887.00	7.510	93.440	2869.57	12.01	-31.39	209.08	40°00'28.483"N	104°54'34.083"W	0.54	
2972.00	7.870	86.910	2953.80	14.31	-31.41	220.44	40°00'28.483"N	104°54'33.937"W	1.11	
3057.00	7.850	92.000	3038.01	16.80	-31.30	232.05	40°00'28.484"N	104°54'33.788"W	0.82	
3143.00	8.780	97.090	3123.10	18.33	-32.31	244.43	40°00'28.474"N	104°54'33.629"W	1.38	
3228.00	9.960	96.750	3206.97	19.51	-33.98	258.17	40°00'28.457"N	104°54'33.452"W	1.39	
3313.00	9.070	95.110	3290.80	20.94	-35.44	272.14	40°00'28.443"N	104°54'33.273"W	1.09	
3398.00	9.260	94.970	3374.71	22.53	-36.63	285.63	40°00'28.431"N	104°54'33.099"W	0.23	
3483.00	8.810	90.530	3458.66	24.62	-37.28	298.95	40°00'28.425"N	104°54'32.928"W	0.98	
3568.00	8.650	88.450	3542.67	27.36	-37.17	311.85	40°00'28.426"N	104°54'32.762"W	0.42	
3654.00	8.470	89.870	3627.71	30.16	-36.98	324.65	40°00'28.428"N	104°54'32.598"W	0.32	
3739.00	9.060	90.550	3711.72	32.76	-37.03	337.60	40°00'28.427"N	104°54'32.431"W	0.70	
3824.00	10.360	93.630	3795.50	35.15	-37.58	351.92	40°00'28.422"N	104°54'32.247"W	1.65	
3909.00	9.170	104.390	3879.28	35.93	-39.74	366.11	40°00'28.400"N	104°54'32.065"W	2.56	
3995.00	8.880	102.090	3964.21	35.59	-42.84	379.24	40°00'28.370"N	104°54'31.896"W	0.54	
4080.00	9.310	99.280	4048.14	35.86	-45.32	392.44	40°00'28.345"N	104°54'31.727"W	0.73	
4165.00	8.240	101.390	4132.15	36.20	-47.63	405.20	40°00'28.322"N	104°54'31.563"W	1.31	
4250.00	9.300	93.700	4216.16	37.21	-49.28	418.02	40°00'28.306"N	104°54'31.398"W	1.86	
4336.00	9.140	94.390	4301.04	39.07	-50.25	431.77	40°00'28.296"N	104°54'31.221"W	0.23	
4421.00	9.480	97.420	4384.93	40.47	-51.67	445.44	40°00'28.282"N	104°54'31.046"W	0.70	
4506.00	9.070	97.660	4468.81	41.49	-53.47	459.02	40°00'28.265"N	104°54'30.871"W	0.48	
4591.00	8.940	96.290	4552.77	42.61	-55.08	472.23	40°00'28.249"N	104°54'30.701"W	0.30	
4677.00	8.880	91.070	4637.73	44.48	-55.94	485.51	40°00'28.240"N	104°54'30.531"W	0.94	
4762.00	8.710	93.550	4721.73	46.63	-56.46	498.49	40°00'28.235"N	104°54'30.364"W	0.49	
4847.00	8.410	89.400	4805.78	48.89	-56.79	511.13	40°00'28.232"N	104°54'30.201"W	0.81	
4932.00	8.420	90.030	4889.87	51.49	-56.73	523.57	40°00'28.232"N	104°54'30.042"W	0.11	
5018.00	9.340	94.350	4974.84	53.68	-57.26	536.82	40°00'28.227"N	104°54'29.871"W	1.32	
5103.00	9.410	96.760	5058.70	55.18	-58.60	550.60	40°00'28.214"N	104°54'29.694"W	0.47	
5188.00	8.710	97.180	5142.64	56.31	-60.23	563.89	40°00'28.198"N	104°54'29.523"W	0.83	
5274.00	8.190	95.190	5227.71	57.54	-61.60	576.45	40°00'28.184"N	104°54'29.362"W	0.69	
5359.00	8.270	94.150	5311.83	59.05	-62.59	588.57	40°00'28.174"N	104°54'29.206"W	0.20	
5444.00	8.960	96.190	5395.87	60.51	-63.74	601.25	40°00'28.163"N	104°54'29.043"W	0.89	
5529.00	8.820	95.010	5479.85	61.92	-65.02	614.32	40°00'28.150"N	104°54'28.875"W	0.27	
5615.00	8.250	94.180	5564.90	63.52	-66.05	627.05	40°00'28.140"N	104°54'28.712"W	0.68	
5700.00	8.670	97.790	5648.98	64.77	-67.36	639.48	40°00'28.127"N	104°54'28.552"W	0.80	
5785.00	8.590	95.580	5733.01	65.91	-68.85	652.14	40°00'28.113"N	104°54'28.389"W	0.40	
5870.00	9.010	99.010	5817.01	66.92	-70.51	665.03	40°00'28.096"N	104°54'28.224"W	0.79	
5956.00	8.580	100.180	5902.00	67.43	-72.70	678.00	40°00'28.075"N	104°54'28.057"W	0.54	
6041.00	8.420	98.780	5986.07	67.93	-74.77	690.39	40°00'28.054"N	104°54'27.898"W	0.31	
6126.00	9.210	94.930	6070.06	69.07	-76.30	703.32	40°00'28.039"N	104°54'27.732"W	1.16	



Actual Wellpath Report

HOWARD 9C-29HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 HOWARD 9C-29HZ (2491'FNL & 1501'FEL,SEC.32)
Area	COLORADO	Well	HOWARD 9C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 9C-29HZ AWB
Facility	SEC.32-T1N-R67W		

WELLPATH DATA (145 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
6212.00	8.170	93.050	6155.08	70.83	-77.22	716.28	40°00'28.030"N	104°54'27.565"W	1.25	
6297.00	8.760	97.440	6239.15	72.24	-78.38	728.73	40°00'28.018"N	104°54'27.405"W	1.03	
6382.00	9.490	96.760	6323.07	73.34	-80.04	742.10	40°00'28.002"N	104°54'27.233"W	0.87	
6467.00	8.380	95.190	6407.04	74.67	-81.43	755.23	40°00'27.988"N	104°54'27.064"W	1.34	
6553.00	8.690	94.170	6492.09	76.25	-82.46	767.95	40°00'27.978"N	104°54'26.901"W	0.40	
6638.00	9.120	93.370	6576.07	78.09	-83.33	781.08	40°00'27.969"N	104°54'26.732"W	0.53	
6724.00	9.760	91.590	6660.90	80.38	-83.93	795.17	40°00'27.963"N	104°54'26.551"W	0.82	
6809.00	9.430	96.130	6744.71	82.34	-84.87	809.30	40°00'27.954"N	104°54'26.370"W	0.97	
6894.00	10.010	95.150	6828.49	83.89	-86.28	823.58	40°00'27.940"N	104°54'26.186"W	0.71	
6980.00	9.930	92.120	6913.19	86.00	-87.23	838.43	40°00'27.931"N	104°54'25.995"W	0.62	
7065.00	7.550	87.760	6997.20	88.58	-87.28	851.34	40°00'27.930"N	104°54'25.829"W	2.90	
7150.00	6.600	89.800	7081.55	90.95	-87.04	861.80	40°00'27.933"N	104°54'25.695"W	1.16	
7235.00	6.090	93.280	7166.03	92.64	-87.28	871.19	40°00'27.930"N	104°54'25.574"W	0.75	
7321.00	7.410	77.280	7251.44	95.61	-86.32	881.15	40°00'27.940"N	104°54'25.446"W	2.66	
7364.00	11.960	50.770	7293.84	100.23	-82.89	887.32	40°00'27.974"N	104°54'25.367"W	14.56	
7406.00	16.030	39.960	7334.59	108.73	-75.69	894.41	40°00'28.045"N	104°54'25.276"W	11.48	
7449.00	18.070	21.450	7375.73	120.55	-64.92	900.67	40°00'28.151"N	104°54'25.195"W	13.42	
7491.00	18.790	15.390	7415.58	133.73	-52.34	904.85	40°00'28.276"N	104°54'25.142"W	4.87	
7534.00	17.340	16.790	7456.46	147.02	-39.53	908.54	40°00'28.402"N	104°54'25.094"W	3.52	
7577.00	19.220	14.400	7497.29	160.48	-26.54	912.15	40°00'28.531"N	104°54'25.048"W	4.71	
7619.00	21.670	15.660	7536.64	175.12	-12.37	915.96	40°00'28.671"N	104°54'24.999"W	5.93	
7662.00	24.940	15.740	7576.12	192.09	4.00	920.57	40°00'28.832"N	104°54'24.940"W	7.61	
7705.00	30.150	16.870	7614.24	211.91	23.08	926.16	40°00'29.021"N	104°54'24.868"W	12.18	
7747.00	34.100	15.630	7649.80	234.17	44.52	932.40	40°00'29.233"N	104°54'24.788"W	9.53	
7790.00	39.710	16.520	7684.17	259.91	69.32	939.56	40°00'29.478"N	104°54'24.696"W	13.11	
7832.00	43.990	15.160	7715.45	287.85	96.27	947.19	40°00'29.744"N	104°54'24.597"W	10.42	
7875.00	49.820	13.430	7744.82	319.21	126.69	954.92	40°00'30.045"N	104°54'24.498"W	13.87	
7917.00	54.850	12.720	7770.47	352.43	159.06	962.43	40°00'30.365"N	104°54'24.402"W	12.05	
7960.00	63.270	11.740	7792.56	389.28	195.08	970.22	40°00'30.721"N	104°54'24.301"W	19.68	
8003.00	69.140	9.870	7809.90	428.60	233.71	977.58	40°00'31.102"N	104°54'24.207"W	14.22	
8045.00	76.720	7.560	7822.22	468.66	273.36	983.64	40°00'31.494"N	104°54'24.129"W	18.80	
8085.00	81.310	3.110	7829.85	507.65	312.44	987.28	40°00'31.880"N	104°54'24.082"W	15.84	
8133.00†	87.914	1.320	7834.35	554.75	360.17	989.12	40°00'32.352"N	104°54'24.058"W	14.25	7" Casing Point
8143.00	89.290	0.950	7834.60	564.57	370.16	989.32	40°00'32.451"N	104°54'24.056"W	14.25	
8197.00	90.340	1.020	7834.77	617.61	424.15	990.25	40°00'32.984"N	104°54'24.044"W	1.95	
8282.00	90.710	1.600	7833.99	701.19	509.12	992.19	40°00'33.824"N	104°54'24.019"W	0.81	
8367.00	90.090	359.930	7833.40	784.61	594.11	993.33	40°00'34.664"N	104°54'24.004"W	2.10	
8452.00	90.060	359.770	7833.29	867.77	679.11	993.10	40°00'35.504"N	104°54'24.007"W	0.19	
8537.00	90.370	0.320	7832.97	950.99	764.11	993.17	40°00'36.344"N	104°54'24.006"W	0.74	
8623.00	89.380	358.740	7833.16	1035.02	850.10	992.46	40°00'37.194"N	104°54'24.015"W	2.17	
8708.00	89.420	359.130	7834.05	1117.89	935.08	990.89	40°00'38.034"N	104°54'24.036"W	0.46	
8793.00	89.820	359.640	7834.61	1200.90	1020.08	989.97	40°00'38.874"N	104°54'24.047"W	0.76	
8878.00	89.880	359.560	7834.83	1283.98	1105.07	989.38	40°00'39.713"N	104°54'24.055"W	0.12	
8964.00	89.750	359.640	7835.11	1368.04	1191.07	988.78	40°00'40.563"N	104°54'24.062"W	0.18	
9049.00	89.820	359.780	7835.43	1451.15	1276.07	988.35	40°00'41.403"N	104°54'24.068"W	0.18	
9134.00	88.090	359.360	7836.98	1534.21	1361.05	987.71	40°00'42.243"N	104°54'24.076"W	2.09	
9219.00	88.430	359.280	7839.56	1617.16	1446.00	986.70	40°00'43.083"N	104°54'24.089"W	0.41	
9305.00	88.490	359.630	7841.87	1701.15	1531.97	985.89	40°00'43.932"N	104°54'24.099"W	0.41	
9390.00	89.850	359.740	7843.10	1784.24	1616.96	985.42	40°00'44.772"N	104°54'24.105"W	1.61	
9475.00	89.940	359.740	7843.26	1867.37	1701.96	985.03	40°00'45.612"N	104°54'24.110"W	0.11	
9560.00	90.090	357.900	7843.24	1950.20	1786.93	983.28	40°00'46.452"N	104°54'24.133"W	2.17	
9646.00	89.820	358.090	7843.30	2033.71	1872.88	980.27	40°00'47.301"N	104°54'24.171"W	0.38	
9731.00	89.500	0.780	7843.81	2116.73	1957.87	979.43	40°00'48.141"N	104°54'24.182"W	3.19	
9816.00	90.330	1.230	7843.93	2200.23	2042.85	980.93	40°00'48.981"N	104°54'24.163"W	1.11	
9902.00	91.290	1.710	7842.72	2284.83	2128.82	983.13	40°00'49.830"N	104°54'24.135"W	1.25	
9987.00	91.810	1.560	7840.42	2368.46	2213.75	985.56	40°00'50.670"N	104°54'24.103"W	0.64	
10072.00	91.940	0.440	7837.64	2451.91	2298.69	987.04	40°00'51.509"N	104°54'24.084"W	1.33	
10158.00	92.150	0.790	7834.57	2536.23	2384.63	987.96	40°00'52.358"N	104°54'24.072"W	0.47	
10243.00	92.060	359.150	7831.45	2619.37	2469.57	987.92	40°00'53.198"N	104°54'24.073"W	1.93	
10328.00	91.870	359.290	7828.53	2702.28	2554.51	986.76	40°00'54.037"N	104°54'24.088"W	0.28	



Actual Wellpath Report

HOWARD 9C-29HZ AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 HOWARD 9C-29HZ (2491'FNL & 1501'FEL,SEC.32)
Area	COLORADO	Well	HOWARD 9C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 9C-29HZ AWB
Facility	SEC.32-T1N-R67W		

WELLPATH DATA (145 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10413.00	90.920	359.740	7826.46	2785.31	2639.48	986.04	40°00'54.877"N	104°54'24.097"W	1.24	
10499.00	90.890	0.060	7825.10	2869.45	2725.47	985.89	40°00'55.727"N	104°54'24.099"W	0.37	
10584.00	90.700	359.920	7823.93	2952.64	2810.46	985.88	40°00'56.567"N	104°54'24.099"W	0.28	
10669.00	90.920	0.440	7822.72	3035.89	2895.45	986.14	40°00'57.407"N	104°54'24.095"W	0.66	
10754.00	91.020	0.430	7821.28	3119.22	2980.44	986.79	40°00'58.246"N	104°54'24.087"W	0.12	
10839.00	91.230	0.630	7819.62	3202.56	3065.42	987.57	40°00'59.086"N	104°54'24.077"W	0.34	
10924.00	90.400	359.560	7818.41	3285.79	3150.41	987.72	40°00'59.926"N	104°54'24.075"W	1.59	
11010.00	90.370	359.930	7817.83	3369.89	3236.41	987.33	40°01'00.776"N	104°54'24.080"W	0.43	
11095.00	90.460	359.810	7817.21	3453.05	3321.40	987.14	40°01'01.616"N	104°54'24.082"W	0.18	
11181.00	91.390	359.350	7815.82	3537.09	3407.39	986.51	40°01'02.466"N	104°54'24.090"W	1.21	
11266.00	91.600	359.080	7813.61	3620.03	3492.35	985.35	40°01'03.305"N	104°54'24.105"W	0.40	
11351.00	91.360	359.220	7811.41	3702.94	3577.31	984.08	40°01'04.145"N	104°54'24.122"W	0.33	
11436.00	91.170	358.860	7809.54	3785.82	3662.28	982.66	40°01'04.985"N	104°54'24.140"W	0.48	
11522.00	91.140	358.260	7807.80	3869.52	3748.24	980.50	40°01'05.834"N	104°54'24.168"W	0.70	
11607.00	91.070	358.540	7806.16	3952.19	3833.19	978.13	40°01'06.674"N	104°54'24.198"W	0.34	
11692.00	90.430	358.460	7805.05	4034.90	3918.15	975.90	40°01'07.513"N	104°54'24.227"W	0.76	
11777.00	90.000	357.200	7804.73	4117.39	4003.09	972.68	40°01'08.353"N	104°54'24.268"W	1.57	
11862.00	89.560	358.770	7805.06	4199.93	4088.03	969.70	40°01'09.192"N	104°54'24.306"W	1.92	
11948.00	90.460	358.370	7805.04	4283.65	4174.00	967.55	40°01'10.042"N	104°54'24.334"W	1.15	
12033.00	90.310	358.060	7804.47	4366.27	4258.96	964.90	40°01'10.881"N	104°54'24.368"W	0.41	
12118.00	90.150	358.750	7804.13	4448.96	4343.93	962.54	40°01'11.721"N	104°54'24.398"W	0.83	
12203.00	89.970	359.290	7804.04	4531.85	4428.91	961.08	40°01'12.561"N	104°54'24.417"W	0.67	
12289.00	89.820	358.370	7804.20	4615.66	4514.89	959.33	40°01'13.410"N	104°54'24.439"W	1.08	
12370.00	89.660	358.780	7804.57	4694.51	4595.87	957.31	40°01'14.211"N	104°54'24.465"W	0.54	Last BHI MWD Survey
12440.00	89.660	358.780	7804.98	4762.71	4665.85	955.82	40°01'14.902"N	104°54'24.484"W	0.00	

HOLE & CASING SECTIONS - Ref Wellbore: HOWARD 9C-29HZ AWB Ref Wellpath: HOWARD 9C-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	16.00	1175.00	1159.00	16.00	1174.97	0.00	0.00	1.53	-5.86
9.625in Casing Surface	16.00	1175.00	1159.00	16.00	1174.97	0.00	0.00	1.53	-5.86
8.75in Open Hole	1175.00	8143.00	6968.00	1174.97	7834.60	1.53	-5.86	370.16	989.32
7in Casing Intermediate	16.00	8133.00	8117.00	16.00	7834.35	0.00	0.00	360.17	989.12
6.125in Open Hole	8133.00	12440.00	4307.00	7834.35	7804.98	360.17	989.12	4665.85	955.82



Actual Wellpath Report

HOWARD 9C-29HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 HOWARD 9C-29HZ (2491'FNL & 1501'FEL,SEC.32)
Area	COLORADO	Well	HOWARD 9C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 9C-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 LINES		0.00	0.00	0.00	3165210.10	1246309.73	40°00'28.793"N	104°54'36.770"W	polygon
HOWARD PAD SECTION 32 LINES		0.00	0.00	0.00	3165210.10	1246309.73	40°00'28.793"N	104°54'36.770"W	polygon
HOWARD 9C-29HZ BHL ON PLAT (2180'FSL & 510'FEL, SEC.29, REV-1)		7810.00	4671.30	975.45	3166154.43	1250987.24	40°01'14.956"N	104°54'24.232"W	point
HOWARD PAD HARDLINES SEC.29 (460' SETBACKS)		7850.00	0.00	0.00	3165210.10	1246309.73	40°00'28.793"N	104°54'36.770"W	polygon
HOWARD PAD HARDLINES SEC.32 (460' SETBACKS)		7850.00	0.00	0.00	3165210.10	1246309.73	40°00'28.793"N	104°54'36.770"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: HOWARD 9C-29HZ AWB Ref Wellpath: HOWARD 9C-29HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	1150.00	Gyrodata standard - Drop gyro or Multi-shot	GYRODATA SURVEYS <100-1150>	HOWARD 9C-29HZ AWB
1150.00	8085.00	NaviTrak (Standard)	BHI MWD SURVEYS 8 3/4" HOLE <1207-8085>	HOWARD 9C-29HZ AWB
8085.00	12370.00	OnTrak (Standard)	BHI MWD SURVEYS 6 1/8" HOLE <8143-12370>	HOWARD 9C-29HZ AWB
12370.00	12440.00	Blind Drilling (std)	Projection to bit	HOWARD 9C-29HZ AWB



Actual Wellpath Report

HOWARD 9C-29HZ AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#03 HOWARD 9C-29HZ (2491'FNL & 1501'FEL,SEC.32)
Area	COLORADO	Well	HOWARD 9C-29HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 9C-29HZ AWB
Facility	SEC.32-T1N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	219.010	16.00	Tie-On
1150.00	0.780	264.410	1149.98	Tie-Into GYRO Surveys
1207.00	0.700	254.630	1206.97	Begin BHI MWD Surveys
8133.00	87.914	1.320	7834.35	7" Casing Point
12370.00	89.660	358.780	7804.57	Last BHI MWD Survey
12440.00	89.660	358.780	7804.98	Projection to Bit