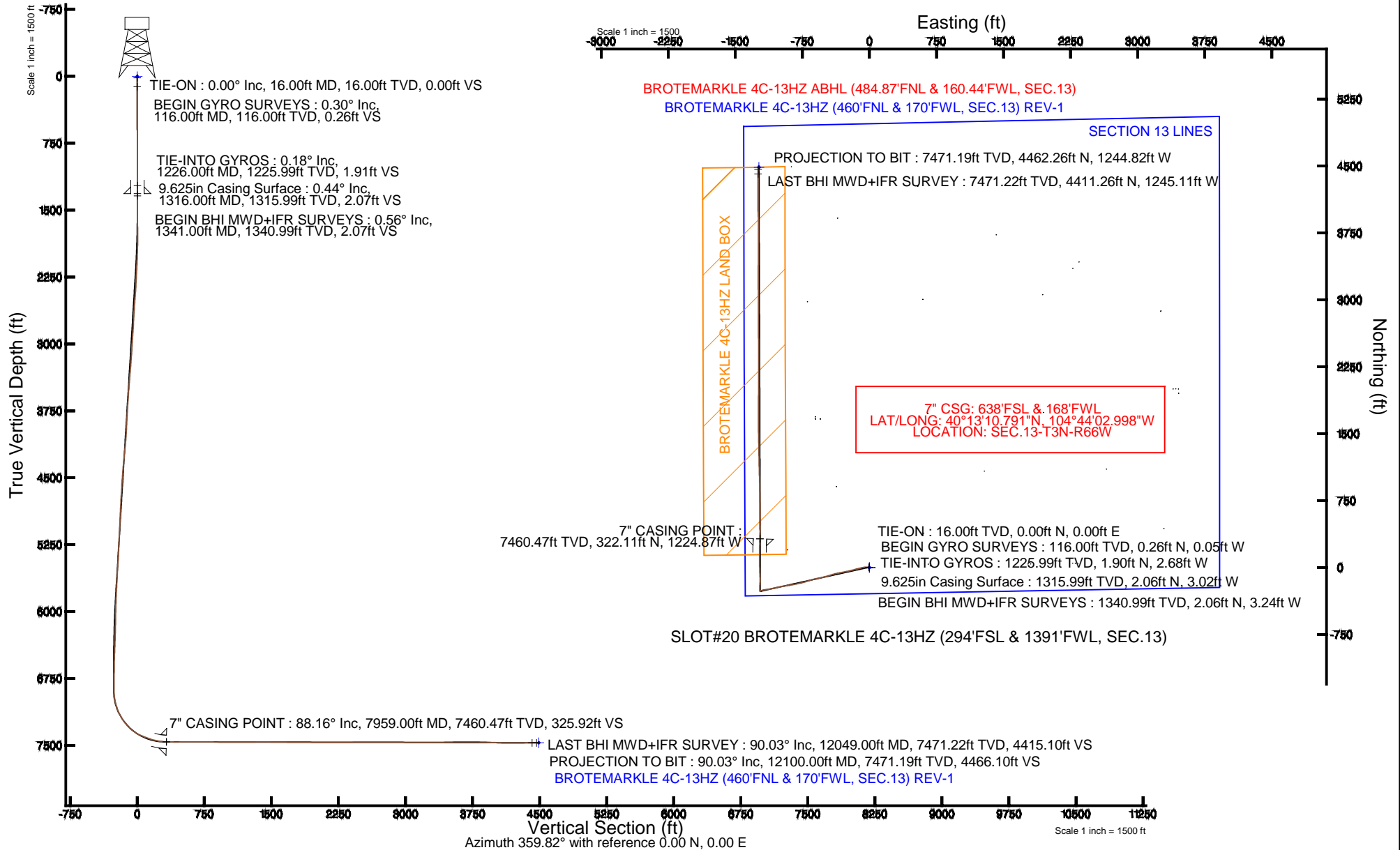


# KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#20 BROTEMARKLE 4C-13HZ (294'FSL & 1391'FWL, SEC.13)  
 Field: WELD COUNTY (KERR MCGEE) Well: BROTEMARKLE 4C-13HZ  
 Facility: SEC.13-T3N-R66W Wellbore: BROTEMARKLE 4C-13HZ PWB

Plot reference wellpath is BROTEMARKLE 4C-13HZ (REV-B.0) PWP

True vertical depths are referenced to XTREME 6 (16' RKB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to XTREME 6 (16' RKB) (RKB)	North Reference: True north
XTREME 6 (16' RKB) (RKB) to Mean Sea Level: 5040 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#20 BROTEMARKLE 4C-13HZ (294'FSL & 1391'FWL, SEC.13): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: wilsjef02 on 4/28/2014





# Actual Wellpath Report

BROTEMARKLE 4C-13HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	<b>KERR-MCGEE OIL &amp; GAS ONSHORE LP</b>	Slot	<b>SLOT#20 BROTEMARKLE 4C-13HZ (294'FSL &amp; 1391'FWL, SEC.13)</b>
Area	<b>COLORADO</b>	Well	<b>BROTEMARKLE 4C-13HZ</b>
Field	<b>WELD COUNTY (KERR MCGEE)</b>	Wellbore	<b>BROTEMARKLE 4C-13HZ AWB</b>
Facility	<b>SEC.13-T3N-R66W</b>		

## REPORT SETUP INFORMATION

Projection System	<b>NAD83 / Lambert Colorado SP, Northern Zone (501), US feet</b>	Software System	<b>WellArchitect® 4.0.0</b>
North Reference	<b>True</b>	User	<b>Wilsjef02</b>
Scale	<b>0.999957</b>	Report Generated	<b>4/28/2014 at 10:12:44 AM</b>
Convergence at slot	<b>n/a</b>	Database/Source file	<b>WellArchitectDB/BROTEMARKLE_4C-13HZ_AWB.xml</b>

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-400.65	-1966.04	3215084.96	1323477.82	<b>40°13'07.608"N</b>	<b>104°43'47.208"W</b>
Facility Reference Pt			3217047.32	1323895.67	<b>40°13'11.568"N</b>	<b>104°43'21.864"W</b>
Field Reference Pt			<b>3197771.84</b>	<b>1268891.29</b>	40°04'09.600"N	104°47'36.000"W

## WELLPATH DATUM

Calculation method	<b>Minimum curvature</b>	XTREME 6 (16' RKB) (RKB) to Facility Vertical Datum	<b>5040.00ft</b>
Horizontal Reference Pt	<b>Slot</b>	XTREME 6 (16' RKB) (RKB) to Mean Sea Level	<b>5040.00ft</b>
Vertical Reference Pt	<b>XTREME 6 (16' RKB) (RKB)</b>	XTREME 6 (16' RKB) (RKB) to Mud Line at Slot (SLOT#20 BROTEMARKLE 4C-13HZ (294'FSL & 1391'FWL, SEC.13))	<b>5040.00ft</b>
MD Reference Pt	<b>XTREME 6 (16' RKB) (RKB)</b>	Section Origin	<b>N 0.00, E 0.00 ft</b>
Field Vertical Reference	<b>Mean Sea Level</b>	Section Azimuth	<b>344.41°</b>



# Actual Wellpath Report

BROTEMARKLE 4C-13HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#20 BROTEMARKLE 4C-13HZ (294'FSL & 1391'FWL, SEC.13)
Area	COLORADO	Well	BROTEMARKLE 4C-13HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BROTEMARKLE 4C-13HZ AWB
Facility	SEC.13-T3N-R66W		

## WELLPATH DATA (143 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	349.120	0.00	0.00	0.00	0.00	40°13'07.608"N	104°43'47.208"W	0.00	
16.00	0.000	349.120	16.00	0.00	0.00	0.00	40°13'07.608"N	104°43'47.208"W	0.00	TIE-ON
116.00	0.300	349.120	116.00	0.26	0.26	-0.05	40°13'07.611"N	104°43'47.209"W	0.30	BEGIN GYRO SURVEYS
216.00	0.410	296.350	216.00	0.76	0.67	-0.42	40°13'07.615"N	104°43'47.213"W	0.33	
316.00	0.300	302.750	316.00	1.20	0.97	-0.96	40°13'07.618"N	104°43'47.220"W	0.12	
416.00	0.270	250.760	415.99	1.38	1.04	-1.40	40°13'07.618"N	104°43'47.226"W	0.25	
516.00	0.060	254.870	515.99	1.36	0.95	-1.68	40°13'07.617"N	104°43'47.230"W	0.21	
616.00	0.390	326.330	615.99	1.69	1.22	-1.92	40°13'07.620"N	104°43'47.233"W	0.38	
716.00	0.460	273.130	715.99	2.14	1.52	-2.50	40°13'07.623"N	104°43'47.240"W	0.39	
816.00	0.160	91.290	815.99	2.23	1.54	-2.77	40°13'07.623"N	104°43'47.244"W	0.62	
916.00	0.190	29.140	915.99	2.30	1.68	-2.55	40°13'07.625"N	104°43'47.241"W	0.18	
1016.00	0.230	312.670	1015.99	2.59	1.96	-2.61	40°13'07.627"N	104°43'47.242"W	0.26	
1116.00	0.220	200.550	1115.99	2.61	1.92	-2.83	40°13'07.627"N	104°43'47.244"W	0.37	
1216.00	0.270	55.430	1215.99	2.53	1.87	-2.70	40°13'07.627"N	104°43'47.243"W	0.47	
1226.00	0.180	1.030	1225.99	2.55	1.90	-2.68	40°13'07.627"N	104°43'47.243"W	2.21	TIE-INTO GYROS
1341.00	0.560	267.510	1340.99	2.85	2.06	-3.24	40°13'07.628"N	104°43'47.250"W	0.52	BEGIN BHI MWD+IFR SURVEYS
1433.00	2.470	275.450	1432.95	3.67	2.23	-5.66	40°13'07.630"N	104°43'47.281"W	2.08	
1525.00	4.330	268.520	1524.78	5.22	2.32	-11.11	40°13'07.631"N	104°43'47.351"W	2.07	
1616.00	5.520	276.300	1615.45	7.69	2.72	-18.89	40°13'07.635"N	104°43'47.452"W	1.50	
1707.00	6.720	275.800	1705.93	11.27	3.73	-28.54	40°13'07.645"N	104°43'47.576"W	1.32	
1799.00	7.440	270.260	1797.23	14.86	4.31	-39.85	40°13'07.651"N	104°43'47.722"W	1.08	
1891.00	8.610	263.680	1888.33	17.59	3.57	-52.65	40°13'07.643"N	104°43'47.887"W	1.61	
1982.00	10.080	259.400	1978.12	19.38	1.36	-67.25	40°13'07.621"N	104°43'48.075"W	1.79	
2073.00	10.580	256.860	2067.64	20.43	-2.00	-83.22	40°13'07.588"N	104°43'48.281"W	0.74	
2164.00	11.320	256.320	2156.98	21.08	-6.02	-100.03	40°13'07.549"N	104°43'48.497"W	0.82	
2255.00	12.180	257.130	2246.08	21.84	-10.27	-118.07	40°13'07.507"N	104°43'48.730"W	0.96	
2346.00	13.130	255.820	2334.87	22.55	-14.94	-137.45	40°13'07.460"N	104°43'48.980"W	1.09	
2437.00	14.950	254.510	2423.14	22.82	-20.60	-158.78	40°13'07.404"N	104°43'49.255"W	2.03	
2528.00	15.390	252.870	2510.97	22.51	-27.30	-181.63	40°13'07.338"N	104°43'49.549"W	0.68	
2618.00	16.410	258.500	2597.53	23.10	-33.35	-205.50	40°13'07.278"N	104°43'49.857"W	2.05	
2710.00	14.920	257.100	2686.11	24.58	-38.58	-229.79	40°13'07.227"N	104°43'50.170"W	1.67	
2801.00	15.260	257.990	2773.98	25.88	-43.69	-252.92	40°13'07.176"N	104°43'50.468"W	0.45	
2891.00	17.130	258.280	2860.40	27.51	-48.85	-277.48	40°13'07.125"N	104°43'50.785"W	2.08	
2981.00	18.910	259.620	2945.98	29.73	-54.17	-304.81	40°13'07.073"N	104°43'51.137"W	2.03	
3066.00	18.550	259.020	3026.48	32.06	-59.23	-331.63	40°13'07.023"N	104°43'51.483"W	0.48	
3152.00	18.520	258.260	3108.02	34.08	-64.61	-358.43	40°13'06.970"N	104°43'51.828"W	0.28	
3322.00	15.870	253.050	3270.42	35.34	-76.88	-407.11	40°13'06.848"N	104°43'52.456"W	1.80	
3492.00	15.720	253.650	3434.00	34.48	-90.14	-451.44	40°13'06.717"N	104°43'53.027"W	0.13	
3662.00	13.640	253.690	3598.44	33.92	-102.26	-492.78	40°13'06.597"N	104°43'53.560"W	1.22	
3832.00	15.130	257.250	3763.11	34.76	-112.78	-533.66	40°13'06.493"N	104°43'54.087"W	1.02	
4002.00	15.290	260.880	3927.16	38.39	-121.23	-577.44	40°13'06.410"N	104°43'54.652"W	0.57	
4173.00	17.700	254.200	4091.12	40.83	-131.89	-624.72	40°13'06.305"N	104°43'55.261"W	1.79	
4343.00	18.260	252.350	4252.82	39.78	-147.00	-674.97	40°13'06.155"N	104°43'55.909"W	0.47	
4513.00	15.490	252.380	4415.49	38.01	-161.95	-721.99	40°13'06.008"N	104°43'56.515"W	1.63	
4684.00	16.790	257.830	4579.75	38.68	-174.07	-767.90	40°13'05.888"N	104°43'57.107"W	1.17	



# Actual Wellpath Report

BROTEMARKLE 4C-13HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#20 BROTEMARKLE 4C-13HZ (294'FSL & 1391'FWL, SEC.13)
Area	COLORADO	Well	BROTEMARKLE 4C-13HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BROTEMARKLE 4C-13HZ AWB
Facility	SEC.13-T3N-R66W		

## WELLPATH DATA (143 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4855.00	15.280	257.920	4744.09	41.53	-183.99	-814.08	40°13'05.790"N	104°43'57.702"W	0.88	
5023.00	14.860	261.500	4906.32	45.54	-191.81	-857.04	40°13'05.712"N	104°43'58.256"W	0.61	
5109.00	15.540	259.480	4989.31	47.92	-195.54	-879.27	40°13'05.676"N	104°43'58.542"W	1.00	
5192.00	15.850	259.320	5069.22	49.87	-199.67	-901.34	40°13'05.635"N	104°43'58.827"W	0.38	
5276.00	16.970	260.960	5149.79	52.25	-203.72	-924.72	40°13'05.595"N	104°43'59.128"W	1.44	
5360.00	15.470	262.310	5230.45	55.18	-207.15	-947.93	40°13'05.561"N	104°43'59.428"W	1.84	
5443.00	16.120	261.370	5310.31	58.10	-210.36	-970.29	40°13'05.529"N	104°43'59.716"W	0.84	
5529.00	14.800	257.310	5393.20	60.10	-214.56	-992.81	40°13'05.488"N	104°44'00.006"W	1.98	
5614.00	15.160	256.700	5475.31	61.09	-219.51	-1014.22	40°13'05.439"N	104°44'00.282"W	0.46	
5700.00	16.040	256.340	5558.15	61.94	-224.90	-1036.71	40°13'05.385"N	104°44'00.572"W	1.03	
5785.00	14.290	258.970	5640.18	63.17	-229.68	-1058.42	40°13'05.338"N	104°44'00.852"W	2.21	
5871.00	13.680	256.930	5723.63	64.46	-234.01	-1078.74	40°13'05.295"N	104°44'01.114"W	0.91	
5956.00	10.850	257.280	5806.69	65.30	-238.04	-1096.34	40°13'05.255"N	104°44'01.341"W	3.33	
6041.00	11.400	258.890	5890.09	66.36	-241.42	-1112.39	40°13'05.222"N	104°44'01.548"W	0.74	
6126.00	10.010	263.020	5973.61	68.12	-243.94	-1127.96	40°13'05.197"N	104°44'01.748"W	1.87	
6210.00	10.120	265.810	6056.32	70.67	-245.37	-1142.57	40°13'05.183"N	104°44'01.937"W	0.59	
6296.00	9.540	262.000	6141.05	73.11	-246.91	-1157.16	40°13'05.168"N	104°44'02.125"W	1.01	
6381.00	9.300	261.000	6224.91	74.82	-248.97	-1170.92	40°13'05.147"N	104°44'02.302"W	0.34	
6466.00	8.200	255.930	6308.92	75.77	-251.51	-1183.59	40°13'05.122"N	104°44'02.465"W	1.58	
6552.00	7.540	252.430	6394.11	75.74	-254.71	-1194.91	40°13'05.091"N	104°44'02.611"W	0.95	
6637.00	5.500	252.010	6478.55	75.38	-257.65	-1204.11	40°13'05.062"N	104°44'02.730"W	2.40	
6722.00	4.790	252.640	6563.21	75.10	-259.97	-1211.37	40°13'05.039"N	104°44'02.823"W	0.84	
6808.00	3.100	251.940	6649.00	74.88	-261.76	-1217.01	40°13'05.021"N	104°44'02.896"W	1.97	
6893.00	2.160	246.750	6733.91	74.57	-263.10	-1220.66	40°13'05.008"N	104°44'02.943"W	1.14	
6979.00	1.300	243.720	6819.87	74.17	-264.18	-1223.03	40°13'04.997"N	104°44'02.974"W	1.01	
7063.00	1.780	324.980	6903.85	75.23	-263.53	-1224.63	40°13'05.004"N	104°44'02.994"W	2.43	
7106.00	6.650	352.560	6946.73	78.32	-260.51	-1225.34	40°13'05.033"N	104°44'03.003"W	11.95	
7149.00	11.120	356.020	6989.20	84.85	-253.90	-1225.95	40°13'05.099"N	104°44'03.011"W	10.46	
7192.00	14.740	358.100	7031.10	94.23	-244.30	-1226.42	40°13'05.194"N	104°44'03.017"W	8.49	
7234.00	18.260	359.640	7071.37	105.78	-232.37	-1226.64	40°13'05.311"N	104°44'03.020"W	8.44	
7277.00	22.450	2.540	7111.67	120.09	-217.43	-1226.31	40°13'05.459"N	104°44'03.016"W	10.02	
7319.00	25.770	4.970	7150.01	136.26	-200.31	-1225.17	40°13'05.628"N	104°44'03.001"W	8.25	
7362.00	30.050	4.210	7188.00	155.15	-180.26	-1223.57	40°13'05.826"N	104°44'02.981"W	9.99	
7405.00	34.150	1.800	7224.42	176.81	-157.44	-1222.40	40°13'06.052"N	104°44'02.966"W	9.99	
7447.00	39.060	359.240	7258.12	200.87	-132.41	-1222.20	40°13'06.299"N	104°44'02.963"W	12.24	
7490.00	43.650	357.680	7290.39	228.43	-104.02	-1222.98	40°13'06.580"N	104°44'02.973"W	10.94	
7533.00	49.480	356.730	7319.94	258.86	-72.85	-1224.52	40°13'06.888"N	104°44'02.993"W	13.65	
7575.00	54.880	357.350	7345.69	291.23	-39.73	-1226.22	40°13'07.215"N	104°44'03.015"W	12.91	
7618.00	61.000	358.360	7368.50	326.65	-3.33	-1227.57	40°13'07.575"N	104°44'03.033"W	14.37	
7661.00	65.940	358.790	7387.70	363.94	35.12	-1228.53	40°13'07.955"N	104°44'03.045"W	11.52	
7703.00	68.620	359.860	7403.92	401.37	73.85	-1228.98	40°13'08.338"N	104°44'03.051"W	6.80	
7746.00	70.920	0.010	7418.79	440.24	114.20	-1229.03	40°13'08.736"N	104°44'03.051"W	5.36	
7788.00	73.270	0.270	7431.70	478.71	154.16	-1228.93	40°13'09.131"N	104°44'03.050"W	5.63	
7831.00	75.840	0.850	7443.15	518.52	195.60	-1228.52	40°13'09.541"N	104°44'03.045"W	6.12	
7874.00	80.200	1.320	7452.08	558.80	237.65	-1227.72	40°13'09.956"N	104°44'03.035"W	10.20	



# Actual Wellpath Report

BROTEMARKLE 4C-13HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#20 BROTEMARKLE 4C-13HZ (294'FSL & 1391'FWL, SEC.13)
Area	COLORADO	Well	BROTEMARKLE 4C-13HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BROTEMARKLE 4C-13HZ AWB
Facility	SEC.13-T3N-R66W		

## WELLPATH DATA (143 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7922.00	84.990	2.170	7458.26	604.23	285.21	-1226.27	40°13'10.426"N	104°44'03.016"W	10.13	
7959.00†	88.158	2.170	7460.47	639.40	322.11	-1224.87	40°13'10.791"N	104°44'02.998"W	8.56	7" CASING POINT
7970.00	89.100	2.170	7460.74	649.87	333.10	-1224.46	40°13'10.899"N	104°44'02.993"W	8.56	
8037.00	89.750	2.320	7461.41	713.65	400.05	-1221.83	40°13'11.561"N	104°44'02.959"W	1.00	
8122.00	90.400	0.170	7461.30	795.00	485.02	-1219.99	40°13'12.401"N	104°44'02.935"W	2.64	
8207.00	90.610	359.150	7460.55	877.00	570.02	-1220.49	40°13'13.241"N	104°44'02.942"W	1.23	
8293.00	89.690	359.310	7460.32	960.14	656.01	-1221.65	40°13'14.090"N	104°44'02.957"W	1.09	
8378.00	89.930	359.070	7460.60	1042.33	741.00	-1222.85	40°13'14.930"N	104°44'02.972"W	0.40	
8463.00	89.410	358.550	7461.09	1124.66	825.98	-1224.61	40°13'15.770"N	104°44'02.995"W	0.87	
8548.00	89.630	358.600	7461.81	1207.07	910.95	-1226.73	40°13'16.610"N	104°44'03.022"W	0.27	
8633.00	90.240	358.190	7461.90	1289.55	995.91	-1229.11	40°13'17.449"N	104°44'03.053"W	0.86	
8696.00	90.090	358.450	7461.72	1350.71	1058.89	-1230.96	40°13'18.072"N	104°44'03.077"W	0.48	
8782.00	89.560	358.660	7461.98	1434.10	1144.86	-1233.12	40°13'18.921"N	104°44'03.105"W	0.66	
8868.00	90.060	359.150	7462.27	1517.36	1230.84	-1234.77	40°13'19.771"N	104°44'03.126"W	0.81	
8953.00	91.020	358.890	7461.47	1599.61	1315.82	-1236.22	40°13'20.611"N	104°44'03.145"W	1.17	
9039.00	90.060	358.600	7460.66	1682.93	1401.80	-1238.10	40°13'21.460"N	104°44'03.169"W	1.17	
9124.00	88.880	359.170	7461.44	1765.23	1486.78	-1239.76	40°13'22.300"N	104°44'03.191"W	1.54	
9208.00	89.320	358.870	7462.76	1846.50	1570.75	-1241.20	40°13'23.130"N	104°44'03.209"W	0.63	
9294.00	89.410	0.460	7463.72	1929.46	1656.74	-1241.70	40°13'23.980"N	104°44'03.216"W	1.85	
9379.00	89.900	0.320	7464.23	2011.18	1741.74	-1241.12	40°13'24.819"N	104°44'03.208"W	0.60	
9465.00	90.150	359.940	7464.19	2093.96	1827.74	-1240.92	40°13'25.669"N	104°44'03.206"W	0.53	
9550.00	89.660	0.730	7464.33	2175.70	1912.74	-1240.43	40°13'26.509"N	104°44'03.199"W	1.09	
9636.00	89.780	1.210	7464.75	2258.13	1998.72	-1238.97	40°13'27.359"N	104°44'03.181"W	0.58	
9721.00	89.660	358.970	7465.17	2339.97	2083.72	-1238.84	40°13'28.199"N	104°44'03.179"W	2.64	
9806.00	90.210	0.410	7465.26	2421.96	2168.71	-1239.30	40°13'29.039"N	104°44'03.185"W	1.81	
9891.00	90.520	0.090	7464.72	2503.73	2253.71	-1238.93	40°13'29.879"N	104°44'03.180"W	0.52	
9977.00	90.240	359.870	7464.15	2586.57	2339.71	-1238.96	40°13'30.729"N	104°44'03.181"W	0.41	
10062.00	90.210	359.720	7463.82	2668.53	2424.71	-1239.26	40°13'31.569"N	104°44'03.185"W	0.18	
10148.00	90.240	359.750	7463.48	2751.47	2510.71	-1239.66	40°13'32.418"N	104°44'03.190"W	0.05	
10233.00	90.400	359.320	7463.01	2833.53	2595.70	-1240.35	40°13'33.258"N	104°44'03.199"W	0.54	
10318.00	89.690	359.650	7462.94	2915.60	2680.70	-1241.11	40°13'34.098"N	104°44'03.209"W	0.92	
10404.00	90.000	0.140	7463.17	2998.48	2766.70	-1241.27	40°13'34.948"N	104°44'03.211"W	0.67	
10490.00	90.180	359.400	7463.04	3081.41	2852.70	-1241.62	40°13'35.798"N	104°44'03.215"W	0.89	
10575.00	89.220	359.750	7463.48	3163.45	2937.69	-1242.25	40°13'36.638"N	104°44'03.224"W	1.20	
10661.00	89.560	359.960	7464.40	3246.34	3023.69	-1242.46	40°13'37.488"N	104°44'03.226"W	0.46	
10746.00	89.570	359.840	7465.04	3328.25	3108.68	-1242.61	40°13'38.328"N	104°44'03.228"W	0.14	
10831.00	90.090	359.750	7465.29	3410.20	3193.68	-1242.92	40°13'39.167"N	104°44'03.232"W	0.62	
10917.00	90.430	359.580	7464.90	3493.17	3279.68	-1243.42	40°13'40.017"N	104°44'03.239"W	0.44	
11002.00	90.150	0.920	7464.47	3574.94	3364.68	-1243.05	40°13'40.857"N	104°44'03.234"W	1.61	
11087.00	91.230	1.430	7463.45	3656.33	3449.65	-1241.31	40°13'41.697"N	104°44'03.212"W	1.41	
11173.00	91.510	359.350	7461.39	3738.98	3535.62	-1240.72	40°13'42.546"N	104°44'03.204"W	2.44	
11258.00	89.840	359.770	7460.39	3821.01	3620.61	-1241.37	40°13'43.386"N	104°44'03.213"W	2.03	
11344.00	90.240	0.260	7460.33	3903.84	3706.61	-1241.35	40°13'44.236"N	104°44'03.212"W	0.74	
11429.00	89.070	359.920	7460.84	3985.68	3791.60	-1241.22	40°13'45.076"N	104°44'03.211"W	1.43	
11514.00	88.140	359.370	7462.91	4067.67	3876.57	-1241.74	40°13'45.916"N	104°44'03.218"W	1.27	



# Actual Wellpath Report

BROTEMARKLE 4C-13HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#20 BROTEMARKLE 4C-13HZ (294'FSL & 1391'FWL, SEC.13)
Area	COLORADO	Well	BROTEMARKLE 4C-13HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	BROTEMARKLE 4C-13HZ AWB
Facility	SEC.13-T3N-R66W		

## WELLPATH DATA (143 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11599.00	86.510	357.460	7466.88	4150.04	3961.44	-1244.09	40°13'46.754"N	104°44'03.248"W	2.95	
11685.00	88.180	359.080	7470.86	4233.45	4047.31	-1246.68	40°13'47.603"N	104°44'03.281"W	2.70	
11770.00	89.380	359.780	7472.67	4315.52	4132.28	-1247.53	40°13'48.443"N	104°44'03.292"W	1.63	
11855.00	90.640	0.820	7472.66	4397.27	4217.28	-1247.08	40°13'49.283"N	104°44'03.287"W	1.92	
11940.00	90.770	0.630	7471.61	4478.84	4302.26	-1246.01	40°13'50.122"N	104°44'03.273"W	0.27	
12025.00	89.810	0.380	7471.18	4560.51	4387.26	-1245.26	40°13'50.962"N	104°44'03.263"W	1.17	
12049.00	90.030	0.330	7471.22	4583.59	4411.26	-1245.11	40°13'51.199"N	104°44'03.261"W	0.94	LAST BHI MWD+IFR SURVEY
12100.00	90.030	0.330	7471.19	4632.63	4462.26	-1244.82	40°13'51.703"N	104°44'03.258"W	0.00	PROJECTION TO BIT

## HOLE & CASING SECTIONS - Ref Wellbore: BROTEMARKLE 4C-13HZ AWB Ref Wellpath: BROTEMARKLE 4C-13HZ 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	1316.00	1300.00	16.00	1315.99	0.00	0.00	2.06	-3.02
9.625in Casing Surface	16.00	1316.00	1300.00	16.00	1315.99	0.00	0.00	2.06	-3.02
8.75in Open Hole	1316.00	7970.00	6654.00	1315.99	7460.74	2.06	-3.02	333.10	-1224.46
7in Casing Intermediate	16.00	7959.00	7943.00	16.00	7460.47	0.00	0.00	322.11	-1224.87
6.125in Open Hole	7959.00	12100.00	4141.00	7460.47	7471.19	322.11	-1224.87	4462.26	-1244.82

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.13-T3N-R66W SECTION LINES		3.00	0.00	0.00	3215084.96	1323477.82	40°13'07.608"N	104°43'47.208"W	polygon
		7470.00	4487.13	-1235.26	3213810.83	1327953.84	40°13'51.949"N	104°44'03.134"W	point
BROTEMARKLE 4C-13HZ (460'FNL & 170'FWL, SEC.13) REV-1		7470.00	0.00	0.00	3215084.96	1323477.82	40°13'07.608"N	104°43'47.208"W	polygon
BROTEMARKLE 4C-13HZ LAND BOX		7470.00	0.00	0.00	3215084.96	1323477.82	40°13'07.608"N	104°43'47.208"W	polygon

## WELLPATH COMPOSITION - Ref Wellbore: BROTEMARKLE 4C-13HZ AWB Ref Wellpath: BROTEMARKLE 4C-13HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	1226.00	Generic gyro - continuous (Standard)	MS ENERGY GYRO GYRO SURVEYS <116-1226>	BROTEMARKLE 4C-13HZ AWB
1226.00	7970.00	NaviTrak (MAGCORR,IFR)	BHI MWD+IFR SURVEYS 8 3/4" HOLE <1341-7970>	BROTEMARKLE 4C-13HZ AWB
7970.00	12049.00	NaviTrak (MAGCORR,IFR)	BHI MWD+IFR SURVEYS 6 1/8" HOLE <8037-12049>	BROTEMARKLE 4C-13HZ AWB
12049.00	12100.00	Blind Drilling (std)	Projection to bit	BROTEMARKLE 4C-13HZ AWB



# Actual Wellpath Report

BROTEMARKLE 4C-13HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#20 BROTEMARKLE 4C-13HZ (294'FSL & 1391'FWL, SEC.13)
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Field	WELD COUNTY (KERR MCGEE)	Wellbore	BROTEMARKLE 4C-13HZ AWB
Facility	SEC.13-T3N-R66W		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	349.120	16.00	TIE-ON
116.00	0.300	349.120	116.00	BEGIN GYRO SURVEYS
1226.00	0.180	1.030	1225.99	TIE-INTO GYROS
1341.00	0.560	267.510	1340.99	BEGIN BHI MWD+IFR SURVEYS
7959.00	88.158	2.170	7460.47	7" CASING POINT
12049.00	90.030	0.330	7471.22	LAST BHI MWD+IFR SURVEY
12100.00	90.030	0.330	7471.19	PROJECTION TO BIT