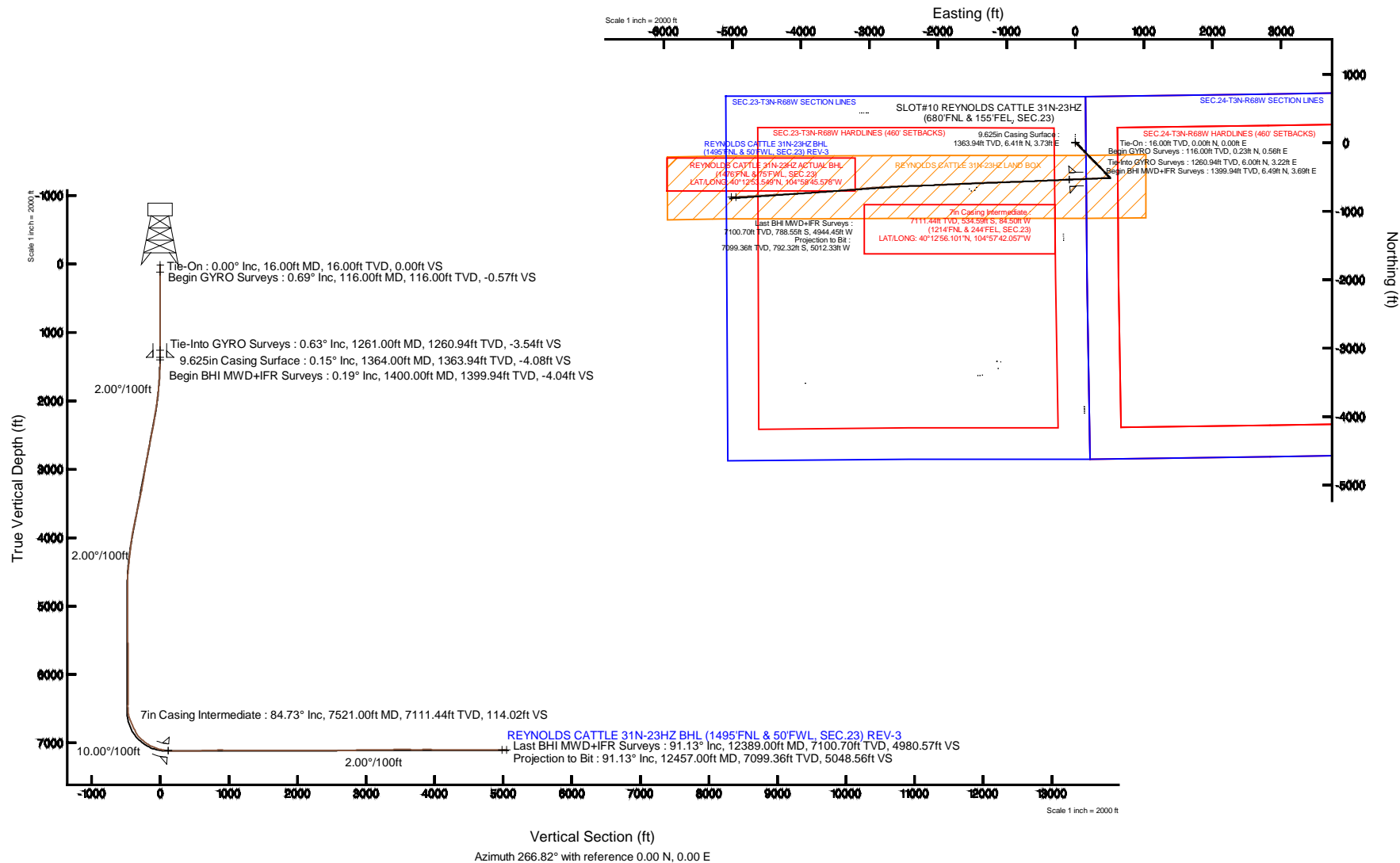


Location:	COLORADO	Slot:	SLOT#10 REYNOLDS CATTLE 31N-23HZ (680'FNL & 155'FEL, SEC.23)
Field:	WELD COUNTY (KERR MCGEE)	Well:	REYNOLDS CATTLE 31N-23HZ
Facility:	SEC.23-T3N-R68W	Wellbore:	REYNOLDS CATTLE 31N-23HZ

True vertical depths are referenced to XTREME 20 (16XB) (RT)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to XTREME 20 (16XB) (RT)	North Reference: True north
XTREME 20 (16XB) (RT) to Mean Sea Level: 4947 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOTH10 REYNOLDS CATTLE 31N-23HZ (680FNL & 155FEL, SEC.23)): 0 feet	Depths are in feet
Created by: in feet referenced to Slot	Coordinates by: precabin on 13/Aug/2014



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#10 REYNOLDS CATTLE 31N-23HZ (680'FNL & 155'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 31N-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 31N-23HZ AWB
Facility	SEC.23-T3N-R68W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Precain
Scale	0.999957	Report Generated	13/Aug/2014 at 21:28
Convergence at slot	n/a	Database/Source file	WellArchitectDB/_REYNOLDS_CATTLE_31N-23HZ_AWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-436.57	3021.75	3150415.14	1322370.72	40°13'01.384"N	104°57'40.968"W
Facility Reference Pt			3147390.98	1322789.28	40°13'05.700"N	104°58'19.920"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) (RT) to Facility Vertical Datum	4947.00ft
Horizontal Reference Pt	Slot	XTREME 20 (16'KB) (RT) to Mean Sea Level	4947.00ft
Vertical Reference Pt	XTREME 20 (16'KB) (RT)	XTREME 20 (16'KB) (RT) to Mud Line at Slot (SLOT#10 REYNOLDS CATTLE 31N-23HZ (680'FNL & 155'FEL, SEC.23))	4947.00ft
MD Reference Pt	XTREME 20 (16'KB) (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	266.82°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#10 REYNOLDS CATTLE 31N-23HZ (680'FNL & 155'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 31N-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 31N-23HZ AWB
Facility	SEC.23-T3N-R68W		

WELLPATH DATA (143 stations) † = interpolated/extrapolated station										Comments
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	
0.00†	0.000	67.650	0.00	0.00	0.00	0.00	40°13'01.384"N	104°57'40.968"W	0.00	
16.00	0.000	67.650	16.00	0.00	0.00	0.00	40°13'01.384"N	104°57'40.968"W	0.00	Tie-On
116.00	0.690	67.650	116.00	-0.57	0.23	0.56	40°13'01.386"N	104°57'40.961"W	0.69	Begin GYRO Surveys
216.00	0.660	54.360	215.99	-1.62	0.79	1.58	40°13'01.392"N	104°57'40.948"W	0.16	
316.00	0.690	36.300	315.98	-2.49	1.61	2.41	40°13'01.400"N	104°57'40.937"W	0.21	
416.00	0.760	34.560	415.98	-3.28	2.65	3.14	40°13'01.410"N	104°57'40.928"W	0.07	
516.00	0.660	5.820	515.97	-3.78	3.76	3.57	40°13'01.421"N	104°57'40.922"W	0.37	
616.00	0.650	341.030	615.96	-3.71	4.87	3.45	40°13'01.432"N	104°57'40.924"W	0.28	
716.00	0.540	316.000	715.96	-3.25	5.75	2.94	40°13'01.441"N	104°57'40.930"W	0.28	
816.00	0.440	305.850	815.95	-2.64	6.31	2.30	40°13'01.446"N	104°57'40.938"W	0.13	
916.00	0.190	232.100	915.95	-2.21	6.44	1.86	40°13'01.448"N	104°57'40.944"W	0.43	
1016.00	0.170	179.380	1015.95	-2.07	6.19	1.73	40°13'01.445"N	104°57'40.946"W	0.16	
1116.00	0.320	119.860	1115.95	-2.29	5.90	1.97	40°13'01.442"N	104°57'40.943"W	0.28	
1216.00	0.630	81.220	1215.95	-3.08	5.84	2.76	40°13'01.442"N	104°57'40.932"W	0.43	
1261.00	0.630	61.200	1260.94	-3.54	6.00	3.22	40°13'01.443"N	104°57'40.927"W	0.49	Tie-Into GYRO Surveys
1400.00	0.190	301.820	1399.94	-4.04	6.49	3.69	40°13'01.448"N	104°57'40.920"W	0.53	Begin BHI MWD+IFR Surveys
1494.00	1.940	140.700	1493.93	-4.86	5.34	4.57	40°13'01.437"N	104°57'40.909"W	2.26	
1588.00	3.810	140.110	1587.80	-7.66	1.71	7.58	40°13'01.401"N	104°57'40.870"W	1.99	
1680.00	5.950	141.270	1679.46	-12.26	-4.35	12.52	40°13'01.341"N	104°57'40.807"W	2.33	
1772.00	7.640	134.050	1770.82	-19.19	-12.32	19.90	40°13'01.262"N	104°57'40.711"W	2.05	
1864.00	8.970	136.840	1861.85	-27.95	-21.81	29.20	40°13'01.168"N	104°57'40.592"W	1.51	
1955.00	10.520	133.860	1951.53	-38.17	-32.74	40.05	40°13'01.060"N	104°57'40.452"W	1.79	
2047.00	12.670	136.250	2041.65	-50.46	-45.85	53.08	40°13'00.931"N	104°57'40.284"W	2.39	
2138.00	13.380	132.880	2130.31	-64.25	-60.22	67.70	40°13'00.789"N	104°57'40.095"W	1.14	
2230.00	12.930	134.580	2219.90	-78.56	-74.69	82.83	40°13'00.646"N	104°57'39.900"W	0.65	
2322.00	14.600	139.170	2309.26	-92.56	-90.69	97.74	40°13'00.488"N	104°57'39.708"W	2.17	
2413.00	16.440	138.690	2396.93	-107.52	-109.04	113.74	40°13'00.306"N	104°57'39.502"W	2.03	
2505.00	17.750	136.850	2484.87	-124.57	-129.06	131.93	40°13'00.109"N	104°57'39.267"W	1.54	
2597.00	18.200	137.820	2572.38	-142.62	-149.93	151.17	40°12'59.902"N	104°57'39.019"W	0.59	
2689.00	17.250	136.690	2660.01	-160.46	-170.51	170.17	40°12'59.699"N	104°57'38.774"W	1.10	
2781.00	14.520	134.620	2748.49	-177.00	-188.54	187.74	40°12'59.521"N	104°57'38.548"W	3.03	
2873.00	15.040	132.220	2837.44	-193.13	-204.66	204.79	40°12'59.362"N	104°57'38.328"W	0.87	
2964.00	15.340	134.190	2925.27	-209.57	-220.98	222.17	40°12'59.200"N	104°57'38.104"W	0.66	
3056.00	12.700	135.190	3014.52	-224.53	-236.64	238.02	40°12'59.045"N	104°57'37.900"W	2.88	
3148.00	12.940	134.130	3104.22	-238.23	-250.99	252.54	40°12'58.904"N	104°57'37.713"W	0.37	
3240.00	13.560	132.410	3193.77	-252.77	-265.44	267.90	40°12'58.761"N	104°57'37.515"W	0.80	
3331.00	14.640	134.240	3282.03	-268.01	-280.66	284.02	40°12'58.611"N	104°57'37.307"W	1.28	
3423.00	16.590	131.100	3370.63	-285.29	-297.40	302.24	40°12'58.445"N	104°57'37.072"W	2.31	
3514.00	17.630	131.840	3457.61	-304.33	-315.14	322.30	40°12'58.270"N	104°57'36.813"W	1.17	
3606.00	17.730	132.190	3545.26	-324.02	-333.84	343.06	40°12'58.085"N	104°57'36.546"W	0.16	
3698.00	15.720	131.830	3633.36	-342.67	-351.56	362.73	40°12'57.910"N	104°57'36.292"W	2.19	
3789.00	16.900	136.390	3720.70	-359.97	-369.36	381.04	40°12'57.734"N	104°57'36.056"W	1.91	
3881.00	18.470	140.040	3808.36	-377.37	-390.21	399.62	40°12'57.528"N	104°57'35.817"W	2.09	
3973.00	19.510	142.460	3895.35	-394.77	-413.57	418.34	40°12'57.297"N	104°57'35.575"W	1.42	
4065.00	16.500	141.730	3982.83	-410.95	-436.01	435.80	40°12'57.075"N	104°57'35.350"W	3.28	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#10 REYNOLDS CATTLE 31N-23HZ (680'FNL & 155'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 31N-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 31N-23HZ AWP
Facility	SEC.23-T3N-R68W		

### 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
4157.00	12.140	141.170	4071.95	-424.11	-453.81	449.96	40°12'56.899"N	104°57'35.168"W	4.74	
4248.00	10.930	144.230	4161.11	-434.33	-468.27	461.01	40°12'56.757"N	104°57'35.025"W	1.49	
4334.00	10.530	140.070	4245.61	-443.42	-480.91	470.82	40°12'56.632"N	104°57'34.899"W	1.01	
4419.00	9.960	133.950	4329.26	-453.07	-491.97	481.10	40°12'56.522"N	104°57'34.767"W	1.44	
4504.00	8.280	130.880	4413.18	-462.47	-501.07	491.02	40°12'56.432"N	104°57'34.639"W	2.06	
4589.00	5.340	126.060	4497.57	-469.94	-507.41	498.84	40°12'56.370"N	104°57'34.538"W	3.52	
4674.00	2.660	111.970	4582.36	-474.79	-510.48	503.87	40°12'56.339"N	104°57'34.473"W	3.34	
4760.00	0.720	122.840	4668.32	-477.03	-511.52	506.18	40°12'56.329"N	104°57'34.443"W	2.28	
4930.00	0.370	251.280	4838.32	-477.36	-512.27	506.55	40°12'56.322"N	104°57'34.438"W	0.58	
5185.00	0.480	255.510	5093.31	-475.52	-512.80	504.74	40°12'56.316"N	104°57'34.462"W	0.04	
5441.00	0.380	266.190	5349.30	-473.62	-513.13	502.85	40°12'56.313"N	104°57'34.486"W	0.05	
5697.00	0.530	266.870	5605.29	-471.59	-513.25	500.82	40°12'56.312"N	104°57'34.512"W	0.06	
5952.00	0.780	289.280	5860.28	-468.81	-512.74	498.01	40°12'56.317"N	104°57'34.549"W	0.14	
6037.00	0.940	43.560	5945.27	-468.78	-512.04	497.94	40°12'56.324"N	104°57'34.549"W	1.70	
6207.00	0.800	22.720	6115.25	-470.31	-509.94	499.36	40°12'56.345"N	104°57'34.531"W	0.20	
6292.00	1.310	6.070	6200.24	-470.73	-508.42	499.69	40°12'56.360"N	104°57'34.527"W	0.69	
6377.00	0.400	92.400	6285.23	-471.18	-507.47	500.09	40°12'56.369"N	104°57'34.522"W	1.58	
6548.00	0.590	32.220	6456.22	-472.29	-506.75	501.16	40°12'56.376"N	104°57'34.508"W	0.31	
6633.00	3.890	272.620	6541.16	-469.67	-506.25	498.51	40°12'56.381"N	104°57'34.542"W	4.96	
6676.00	10.660	271.580	6583.79	-464.25	-506.07	493.07	40°12'56.383"N	104°57'34.612"W	15.75	
6718.00	17.280	269.130	6624.53	-454.13	-506.06	482.94	40°12'56.383"N	104°57'34.743"W	15.82	
6761.00	23.210	266.890	6664.85	-439.27	-506.62	468.08	40°12'56.378"N	104°57'34.934"W	13.91	
6803.00	24.490	266.280	6703.27	-422.28	-507.63	451.13	40°12'56.368"N	104°57'35.153"W	3.10	
6846.00	23.900	266.020	6742.49	-404.66	-508.81	433.55	40°12'56.356"N	104°57'35.379"W	1.39	
6888.00	25.920	266.020	6780.58	-386.97	-510.04	415.90	40°12'56.344"N	104°57'35.607"W	4.81	
6931.00	26.130	265.650	6819.22	-368.11	-511.41	397.08	40°12'56.330"N	104°57'35.850"W	0.62	
6974.00	28.880	265.940	6857.35	-348.26	-512.87	377.28	40°12'56.316"N	104°57'36.105"W	6.40	
7017.00	36.300	266.250	6893.56	-325.11	-514.44	354.19	40°12'56.300"N	104°57'36.402"W	17.26	
7058.00	44.230	266.520	6924.82	-298.64	-516.10	327.76	40°12'56.284"N	104°57'36.743"W	19.35	
7101.00	50.440	267.600	6953.95	-267.03	-517.71	296.20	40°12'56.268"N	104°57'37.150"W	14.56	
7144.00	53.470	267.960	6980.44	-233.18	-519.02	262.37	40°12'56.255"N	104°57'37.586"W	7.08	
7187.00	53.930	268.180	7005.90	-198.53	-520.18	227.73	40°12'56.244"N	104°57'38.032"W	1.15	
7229.00	58.070	267.310	7029.38	-163.73	-521.56	192.95	40°12'56.230"N	104°57'38.481"W	10.01	
7272.00	64.310	266.970	7050.09	-126.07	-523.44	155.33	40°12'56.211"N	104°57'38.966"W	14.53	
7314.00	69.370	266.800	7066.61	-87.46	-525.54	116.79	40°12'56.191"N	104°57'39.463"W	12.05	
7357.00	72.910	267.070	7080.51	-46.78	-527.71	76.16	40°12'56.169"N	104°57'39.986"W	8.25	
7399.00	77.180	267.390	7091.34	-6.21	-529.67	35.64	40°12'56.150"N	104°57'40.509"W	10.19	
7469.00	80.620	267.890	7104.82	62.46	-532.50	-32.98	40°12'56.122"N	104°57'41.393"W	4.96	
7521.00†	84.731	267.465	7111.44	114.02	-534.59	-84.50	40°12'56.101"N	104°57'42.057"W	7.95	7" Casing Point
7565.00	88.210	267.110	7114.15	157.93	-536.67	-128.36	40°12'56.081"N	104°57'42.623"W	7.95	
7650.00	88.980	267.910	7116.24	242.89	-540.36	-213.26	40°12'56.044"N	104°57'43.717"W	1.31	
7735.00	90.430	267.640	7116.67	327.88	-543.66	-298.19	40°12'56.012"N	104°57'44.812"W	1.74	
7820.00	89.900	266.820	7116.43	412.87	-547.77	-383.09	40°12'55.971"N	104°57'45.906"W	1.15	
7905.00	91.530	266.840	7115.37	497.87	-552.47	-467.95	40°12'55.925"N	104°57'47.000"W	1.92	
7990.00	92.240	267.310	7112.57	582.82	-556.80	-552.79	40°12'55.882"N	104°57'48.094"W	1.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#10 REYNOLDS CATTLE 31N-23HZ (680'FNL & 155'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 31N-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 31N-23HZ AWB
Facility	SEC.23-T3N-R68W		

### WELLPATH DATA (143 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8075.00	92.400	267.720	7109.13	667.74	-560.48	-637.64	40°12'55.845"N	104°57'49.187"W	0.52	
8161.00	91.600	268.020	7106.13	753.67	-563.68	-723.53	40°12'55.814"N	104°57'50.294"W	0.99	
8245.00	90.610	268.740	7104.51	837.63	-566.05	-807.48	40°12'55.790"N	104°57'51.377"W	1.46	
8331.00	89.130	268.230	7104.71	923.59	-568.33	-893.44	40°12'55.768"N	104°57'52.485"W	1.82	
8416.00	89.160	268.300	7105.97	1008.55	-570.90	-978.40	40°12'55.742"N	104°57'53.580"W	0.09	
8501.00	89.380	268.540	7107.06	1093.51	-573.24	-1063.36	40°12'55.719"N	104°57'54.675"W	0.38	
8586.00	89.530	268.670	7107.87	1178.47	-575.31	-1148.33	40°12'55.699"N	104°57'55.770"W	0.23	
8671.00	90.550	268.530	7107.81	1263.42	-577.39	-1233.30	40°12'55.678"N	104°57'56.866"W	1.21	
8757.00	89.720	267.840	7107.60	1349.40	-580.11	-1319.26	40°12'55.651"N	104°57'57.974"W	1.26	
8842.00	90.120	267.490	7107.72	1434.39	-583.58	-1404.19	40°12'55.617"N	104°57'59.068"W	0.63	
8927.00	90.000	267.420	7107.63	1519.38	-587.35	-1489.10	40°12'55.579"N	104°58'00.163"W	0.16	
9012.00	90.240	267.060	7107.46	1604.38	-591.44	-1574.00	40°12'55.539"N	104°58'01.257"W	0.51	
9097.00	89.260	266.750	7107.83	1689.38	-596.03	-1658.88	40°12'55.493"N	104°58'02.351"W	1.21	
9182.00	89.690	266.950	7108.60	1774.37	-600.70	-1743.74	40°12'55.447"N	104°58'03.445"W	0.56	
9267.00	89.600	267.050	7109.13	1859.37	-605.15	-1828.63	40°12'55.403"N	104°58'04.539"W	0.16	
9352.00	89.560	267.370	7109.75	1944.37	-609.29	-1913.52	40°12'55.362"N	104°58'05.634"W	0.38	
9437.00	89.560	267.470	7110.41	2029.36	-613.12	-1998.43	40°12'55.324"N	104°58'06.728"W	0.12	
9522.00	90.180	267.640	7110.60	2114.35	-616.74	-2083.36	40°12'55.289"N	104°58'07.823"W	0.76	
9607.00	90.120	267.640	7110.38	2199.34	-620.24	-2168.28	40°12'55.254"N	104°58'08.918"W	0.07	
9692.00	89.930	267.590	7110.34	2284.34	-623.78	-2253.21	40°12'55.219"N	104°58'10.012"W	0.23	
9777.00	90.180	267.870	7110.26	2369.32	-627.15	-2338.14	40°12'55.185"N	104°58'11.107"W	0.44	
9862.00	90.670	268.170	7109.63	2454.30	-630.08	-2423.09	40°12'55.156"N	104°58'12.202"W	0.68	
9948.00	91.100	268.370	7108.30	2540.27	-632.68	-2509.04	40°12'55.131"N	104°58'13.310"W	0.55	
10033.00	91.350	268.560	7106.48	2625.21	-634.95	-2593.99	40°12'55.108"N	104°58'14.405"W	0.37	
10118.00	90.490	268.240	7105.12	2710.17	-637.33	-2678.95	40°12'55.085"N	104°58'15.500"W	1.08	
10203.00	90.030	267.250	7104.73	2795.15	-640.67	-2763.88	40°12'55.051"N	104°58'16.595"W	1.28	
10288.00	90.300	266.280	7104.49	2880.15	-645.47	-2848.74	40°12'55.004"N	104°58'17.689"W	1.18	
10373.00	90.430	265.740	7103.95	2965.14	-651.38	-2933.53	40°12'54.945"N	104°58'18.782"W	0.65	
10458.00	90.670	265.140	7103.13	3050.11	-658.14	-3018.26	40°12'54.878"N	104°58'19.874"W	0.76	
10543.00	91.200	264.750	7101.74	3135.05	-665.63	-3102.92	40°12'54.804"N	104°58'20.965"W	0.77	
10628.00	90.670	264.670	7100.36	3219.99	-673.46	-3187.54	40°12'54.727"N	104°58'22.056"W	0.63	
10714.00	91.070	264.930	7099.05	3305.92	-681.26	-3273.18	40°12'54.650"N	104°58'23.160"W	0.55	
10799.00	91.070	264.750	7097.46	3390.86	-688.90	-3357.82	40°12'54.574"N	104°58'24.251"W	0.21	
10883.00	90.760	264.500	7096.12	3474.78	-696.77	-3441.44	40°12'54.496"N	104°58'25.329"W	0.47	
10969.00	89.380	265.390	7096.02	3560.73	-704.35	-3527.10	40°12'54.421"N	104°58'26.433"W	1.91	
11054.00	89.220	265.280	7097.06	3645.70	-711.26	-3611.81	40°12'54.353"N	104°58'27.525"W	0.23	
11139.00	90.030	265.720	7097.61	3730.67	-717.93	-3696.55	40°12'54.287"N	104°58'28.617"W	1.08	
11224.00	90.490	266.410	7097.23	3815.67	-723.76	-3781.35	40°12'54.229"N	104°58'29.710"W	0.98	
11309.00	89.810	266.170	7097.00	3900.66	-729.26	-3866.17	40°12'54.175"N	104°58'30.804"W	0.85	
11394.00	89.840	266.830	7097.26	3985.66	-734.45	-3951.01	40°12'54.123"N	104°58'31.897"W	0.78	
11479.00	89.350	266.860	7097.86	4070.66	-739.13	-4035.88	40°12'54.077"N	104°58'32.991"W	0.58	
11564.00	89.190	267.150	7098.95	4155.65	-743.57	-4120.75	40°12'54.033"N	104°58'34.085"W	0.39	
11649.00	88.950	266.940	7100.33	4240.64	-747.95	-4205.63	40°12'53.989"N	104°58'35.179"W	0.38	
11734.00	89.190	267.640	7101.71	4325.62	-751.97	-4290.52	40°12'53.949"N	104°58'36.273"W	0.87	
11819.00	89.290	267.290	7102.83	4410.61	-755.73	-4375.43	40°12'53.912"N	104°58'37.368"W	0.43	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#10 REYNOLDS CATTLE 31N-23HZ (680'FNL & 155'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 31N-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 31N-23HZ AWB
Facility	SEC.23-T3N-R68W		

WELLPATH DATA (143 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11904.00	90.150	266.530	7103.25	4495.61	-760.31	-4460.31	40°12'53.867"N	104°58'38.462"W	1.35	
11996.00	89.780	266.280	7103.30	4587.60	-766.08	-4552.13	40°12'53.810"N	104°58'39.646"W	0.49	
12087.00	89.470	266.660	7103.90	4678.60	-771.68	-4642.95	40°12'53.754"N	104°58'40.816"W	0.54	
12179.00	90.330	266.840	7104.06	4770.60	-776.90	-4734.80	40°12'53.702"N	104°58'42.000"W	0.96	
12271.00	90.980	266.710	7103.01	4862.59	-782.07	-4826.65	40°12'53.651"N	104°58'43.184"W	0.72	
12362.00	91.230	266.970	7101.25	4953.58	-787.09	-4917.49	40°12'53.601"N	104°58'44.355"W	0.40	
12389.00	91.130	266.820	7100.70	4980.57	-788.55	-4944.45	40°12'53.587"N	104°58'44.703"W	0.67	Last BHI MWD+IFR Surveys
12457.00	91.130	266.820	7099.36	5048.56	-792.32	-5012.33	40°12'53.549"N	104°58'45.578"W	0.00	Projection to Bit

HOLE & CASING SECTIONS - Ref Wellbore: REYNOLDS CATTLE 31N-23HZ AWB      Ref Wellpath: REYNOLDS CATTLE 31N-23HZ 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	1373.00	1357.00	16.00	1372.94	0.00	0.00	6.43	3.73
9.625in Casing Surface	16.00	1364.00	1348.00	16.00	1363.94	0.00	0.00	6.41	3.73
8.75in Open Hole	1373.00	7533.00	6160.00	1372.94	7112.45	6.43	3.73	-535.13	-96.45
7in Casing Intermediate	16.00	7521.00	7505.00	16.00	7111.44	0.00	0.00	-534.59	-84.50
6.125in Open Hole	7533.00	12457.00	4924.00	7112.45	7099.36	-535.13	-96.45	-792.32	-5012.33

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#10 REYNOLDS CATTLE 31N-23HZ (680'FNL & 155'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 31N-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 31N-23HZ AWB
Facility	SEC.23-T3N-R68W		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.19-T3N-R67W HARDLINES (460' SETBACKS)		-1.00	120.18	-1.40	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
SEC.19-T3N-R67W SECTION LINES		-1.00	120.18	-1.40	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
SEC.23-T3N-R68W HARDLINES (460' SETBACKS)		-1.00	120.18	-1.40	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
SEC.23-T3N-R68W SECTION LINES		-1.00	120.18	-1.40	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
SEC.24-T3N-R68W HARDLINES (460' SETBACKS)		-1.00	120.18	-1.40	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
SEC.24-T3N-R68W SECTION LINES		-1.00	120.18	-1.40	3150413.01	1322490.88	40°13'02.572"N	104°57'40.986"W	polygon
REYNOLDS CATTLE 31N-23HZ BHL ON PLAT (1350'FNL & 50'FWL, SEC.23) REV-1		7083.00	-666.97	-5036.57	3145382.94	1321673.20	40°12'54.788"N	104°58'45.890"W	point
REYNOLDS CATTLE 31N-23HZ BHL (1495'FNL & 50'FWL, SEC.23) REV-3		7107.00	-811.93	-5036.57	3145383.82	1321528.25	40°12'53.355"N	104°58'45.890"W	point
REYNOLDS CATTLE 31N-23HZ BHL ON PLAT (1350'FNL & 50'FWL, SEC.23) REV-2		7107.00	-666.93	-5036.57	3145382.94	1321673.24	40°12'54.788"N	104°58'45.890"W	point
REYNOLDS CATTLE 31N-23HZ LAND BOX		7250.00	60.07	-0.84	3150413.94	1322430.78	40°13'01.978"N	104°57'40.979"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: REYNOLDS CATTLE 31N-23HZ AWB					Ref Wellpath: REYNOLDS CATTLE 31N-23HZ AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment		Wellbore	
16.00	1261.00	Generic gyro - continuous (Standard)	MS ENERGY GYRO SURVEYS <116-1261>		REYNOLDS CATTLE 31N-23HZ AWB	
1261.00	7469.00	NaviTrak (IFR)	BHI MWD+IFR SURVEYS 8 3/4" HOLE <1400-7469>		REYNOLDS CATTLE 31N-23HZ AWB	
7469.00	12389.00	NaviTrak (IFR)	BHI MWD+IFR SURVEYS 6 1/8" HOLE <7565-12389>		REYNOLDS CATTLE 31N-23HZ AWB	
12389.00	12457.00	Blind Drilling (std)	Projection to bit		REYNOLDS CATTLE 31N-23HZ AWB	



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#10 REYNOLDS CATTLE 31N-23HZ (680'FNL & 155'FEL, SEC.23)
Area	COLORADO	Well	REYNOLDS CATTLE 31N-23HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	REYNOLDS CATTLE 31N-23HZ AWB
Facility	SEC.23-T3N-R68W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	67.650	16.00	Tie-On
116.00	0.690	67.650	116.00	Begin GYRO Surveys
1261.00	0.630	61.200	1260.94	Tie-Into GYRO Surveys
1400.00	0.190	301.820	1399.94	Begin BHI MWD+IFR Surveys
7521.00	84.731	267.465	7111.44	7" Casing Point
12389.00	91.130	266.820	7100.70	Last BHI MWD+IFR Surveys
12457.00	91.130	266.820	7099.36	Projection to Bit