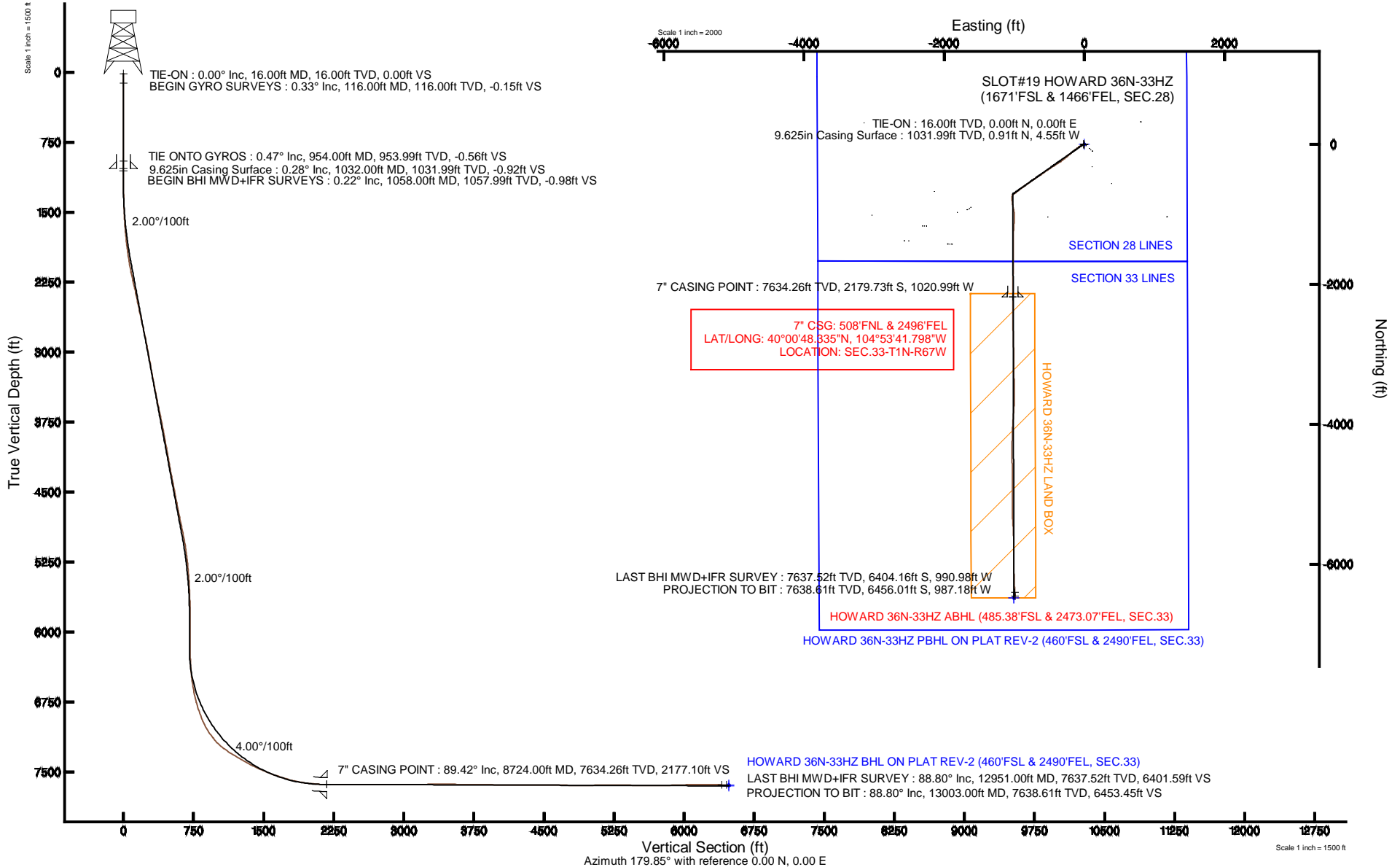


KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOT#19 HOWARD 36N-33HZ (1671'FSL & 1466'FEL, SEC.28)
 Field: WELD COUNTY (KERR MCGEE) Well: HOWARD 36N-33HZ
 Facility: SEC.28-T1N-R67W Wellbore: HOWARD 36N-33HZ PWB

Plot reference wellpath is HOWARD 36N-33HZ (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: 5037 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#19 HOWARD 36N-33HZ (1671'FSL & 1466'FEL, SEC.28)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: robiale01 on 11/Feb/2014



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#19 HOWARD 36N-33HZ (1671'FSL & 1466'FEL, SEC.28)
Area	COLORADO	Well	HOWARD 36N-33HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 36N-33HZ AWB
Facility	SEC.28-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	0.999965	Report Generated	11/Feb/2014 at 14:42
Convergence at slot	n/a	Database/Source file	WellArchitectDB/HOWARD_36N-33HZ_AWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	1413542.99	2716935.18	3170479.93	1250502.52	40°01'09.876"N	104°53'28.676"W
Facility Reference Pt			316923.76	121463.46	36°32'36.656"N	114°37'52.006"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 6 (16' RKB) (RKB) to Facility Vertical Datum	5037.00ft
Horizontal Reference Pt	Slot	XTREME 6 (16' RKB) (RKB) to Mean Sea Level	5037.00ft
Vertical Reference Pt	XTREME 6 (16' RKB) (RKB)	XTREME 6 (16' RKB) (RKB) to Mud Line at Slot (SLOT#19 HOWARD 36N-33HZ (1671'FSL & 1466'FEL, SEC.28))	5037.00ft
MD Reference Pt	XTREME 6 (16' RKB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	188.69°

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP		Slot	SLOT#19 HOWARD 36N-33HZ (1671'FSL & 1466'FEL, SEC.28)
Area	COLORADO		Well	HOWARD 36N-33HZ
Field	WELD COUNTY (KERR MCGEE)		Wellbore	HOWARD 36N-33HZ AWB
Facility	SEC.28-T1N-R67W			

WELLPATH DATA (181 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	301.610	0.00	0.00	0.00	0.00	40°01'09.876"N	104°53'28.676"W	0.00	
16.00	0.000	301.610	16.00	0.00	0.00	0.00	40°01'09.876"N	104°53'28.676"W	0.00	TIE-ON
116.00	0.330	301.610	116.00	-0.11	0.15	-0.25	40°01'09.877"N	104°53'28.679"W	0.33	BEGIN GYRO SURVEYS
216.00	0.300	265.580	216.00	-0.16	0.28	-0.75	40°01'09.879"N	104°53'28.686"W	0.20	
316.00	0.450	289.020	316.00	-0.18	0.39	-1.38	40°01'09.880"N	104°53'28.694"W	0.21	
416.00	0.340	258.010	415.99	-0.14	0.46	-2.05	40°01'09.881"N	104°53'28.702"W	0.24	
516.00	0.290	237.370	515.99	0.13	0.26	-2.55	40°01'09.879"N	104°53'28.709"W	0.12	
616.00	0.200	266.040	615.99	0.34	0.11	-2.94	40°01'09.877"N	104°53'28.714"W	0.15	
716.00	0.260	287.520	715.99	0.34	0.17	-3.33	40°01'09.878"N	104°53'28.719"W	0.10	
816.00	0.300	292.550	815.99	0.24	0.33	-3.78	40°01'09.879"N	104°53'28.725"W	0.05	
916.00	0.060	261.770	915.99	0.19	0.43	-4.08	40°01'09.880"N	104°53'28.728"W	0.25	
954.00	0.470	320.840	953.99	0.10	0.55	-4.20	40°01'09.881"N	104°53'28.730"W	1.16	TIE ONTO GYROS
1058.00	0.220	297.520	1057.99	-0.26	0.97	-4.64	40°01'09.886"N	104°53'28.736"W	0.27	BEGIN BHI MWD+IFR SURVEYS
1149.00	0.940	260.390	1148.98	-0.08	0.92	-5.53	40°01'09.885"N	104°53'28.747"W	0.85	
1244.00	2.100	244.840	1243.95	1.14	0.05	-7.88	40°01'09.877"N	104°53'28.777"W	1.28	
1336.00	2.990	236.220	1335.86	3.70	-2.00	-11.40	40°01'09.856"N	104°53'28.822"W	1.05	
1427.00	4.170	243.990	1426.68	7.18	-4.77	-16.34	40°01'09.829"N	104°53'28.886"W	1.40	
1518.00	6.110	249.850	1517.31	11.40	-7.89	-23.86	40°01'09.798"N	104°53'28.983"W	2.21	
1610.00	8.100	241.990	1608.60	17.64	-12.62	-34.18	40°01'09.751"N	104°53'29.115"W	2.40	
1701.00	9.950	237.530	1698.47	26.65	-19.85	-46.48	40°01'09.680"N	104°53'29.273"W	2.17	
1793.00	11.120	237.650	1788.92	37.70	-28.86	-60.68	40°01'09.591"N	104°53'29.456"W	1.27	
1884.00	12.520	236.560	1877.98	50.08	-39.00	-76.32	40°01'09.491"N	104°53'29.657"W	1.56	
1976.00	14.490	235.840	1967.44	64.60	-50.96	-94.17	40°01'09.372"N	104°53'29.886"W	2.15	
2067.00	15.840	232.800	2055.27	81.27	-64.86	-113.49	40°01'09.235"N	104°53'30.135"W	1.72	
2159.00	18.150	230.740	2143.24	100.93	-81.52	-134.58	40°01'09.070"N	104°53'30.406"W	2.59	
2251.00	20.000	231.060	2230.19	123.19	-100.48	-157.92	40°01'08.883"N	104°53'30.706"W	2.01	
2342.00	19.680	230.550	2315.79	146.10	-119.99	-181.86	40°01'08.690"N	104°53'31.013"W	0.40	
2434.00	18.550	230.220	2402.71	168.60	-139.20	-205.06	40°01'08.500"N	104°53'31.312"W	1.23	
2525.00	17.170	229.630	2489.33	189.58	-157.16	-226.42	40°01'08.323"N	104°53'31.586"W	1.53	
2617.00	18.170	228.840	2576.98	210.81	-175.40	-247.57	40°01'08.143"N	104°53'31.858"W	1.12	
2708.00	19.150	231.170	2663.20	232.66	-194.10	-269.88	40°01'07.958"N	104°53'32.145"W	1.35	
2799.00	19.410	232.050	2749.10	254.67	-212.76	-293.43	40°01'07.773"N	104°53'32.448"W	0.43	
2891.00	20.190	232.420	2835.66	277.25	-231.84	-318.07	40°01'07.585"N	104°53'32.764"W	0.86	
2982.00	19.570	236.620	2921.24	298.82	-249.80	-343.24	40°01'07.407"N	104°53'33.088"W	1.71	
3067.00	19.220	238.460	3001.42	317.39	-264.96	-367.05	40°01'07.258"N	104°53'33.394"W	0.83	
3153.00	19.000	238.280	3082.68	335.61	-279.72	-391.03	40°01'07.112"N	104°53'33.702"W	0.26	
3238.00	18.220	239.160	3163.23	353.04	-293.81	-414.20	40°01'06.972"N	104°53'34.000"W	0.98	
3323.00	18.610	235.730	3243.88	370.74	-308.26	-436.82	40°01'06.830"N	104°53'34.291"W	1.35	
3408.00	19.520	236.240	3324.22	389.57	-323.79	-459.84	40°01'06.676"N	104°53'34.586"W	1.09	
3494.00	19.390	235.830	3405.31	408.98	-339.79	-483.59	40°01'06.518"N	104°53'34.892"W	0.22	
3579.00	19.370	237.360	3485.49	427.89	-355.32	-507.14	40°01'06.365"N	104°53'35.194"W	0.60	
3664.00	20.060	234.920	3565.51	447.28	-371.30	-530.94	40°01'06.207"N	104°53'35.500"W	1.26	
3750.00	19.910	234.830	3646.33	467.63	-388.21	-554.98	40°01'06.040"N	104°53'35.809"W	0.18	
3835.00	19.050	234.690	3726.47	487.30	-404.56	-578.13	40°01'05.878"N	104°53'36.107"W	1.01	
3920.00	18.930	234.060	3806.84	506.62	-420.67	-600.61	40°01'05.719"N	104°53'36.396"W	0.28	

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP		Slot	SLOT#19 HOWARD 36N-33HZ (1671'FSL & 1466'FEL, SEC.28)
Area	COLORADO		Well	HOWARD 36N-33HZ
Field	WELD COUNTY (KERR MCGEE)		Wellbore	HOWARD 36N-33HZ AWB
Facility	SEC.28-T1N-R67W			

WELLPATH DATA (181 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4005.00	18.760	237.250	3887.29	525.36	-436.16	-623.27	40°01'05.566"N	104°53'36.687"W	1.23	
4091.00	18.530	237.230	3968.77	543.56	-451.04	-646.39	40°01'05.419"N	104°53'36.984"W	0.27	
4176.00	17.700	234.640	4049.56	561.49	-465.83	-668.29	40°01'05.272"N	104°53'37.266"W	1.36	
4261.00	17.670	235.470	4130.54	579.31	-480.62	-689.45	40°01'05.126"N	104°53'37.538"W	0.30	
4347.00	18.010	236.890	4212.41	597.11	-495.28	-711.34	40°01'04.981"N	104°53'37.819"W	0.64	
4432.00	18.150	234.400	4293.21	615.11	-510.16	-733.11	40°01'04.834"N	104°53'38.099"W	0.92	
4517.00	18.290	233.450	4373.95	633.83	-525.81	-754.59	40°01'04.680"N	104°53'38.375"W	0.39	
4602.00	18.780	235.660	4454.54	652.64	-541.47	-776.61	40°01'04.525"N	104°53'38.658"W	1.01	
4688.00	18.550	236.650	4536.02	671.25	-556.80	-799.46	40°01'04.373"N	104°53'38.951"W	0.46	
4773.00	18.580	234.880	4616.60	689.68	-572.03	-821.83	40°01'04.223"N	104°53'39.239"W	0.66	
4858.00	18.650	234.670	4697.15	708.50	-587.68	-844.00	40°01'04.068"N	104°53'39.524"W	0.11	
4943.00	19.290	232.260	4777.53	728.12	-604.13	-866.19	40°01'03.906"N	104°53'39.809"W	1.19	
5028.00	18.750	231.970	4857.89	748.24	-621.14	-888.05	40°01'03.738"N	104°53'40.090"W	0.64	
5113.00	18.520	233.280	4938.44	767.80	-637.63	-909.64	40°01'03.575"N	104°53'40.367"W	0.56	
5199.00	17.500	234.110	5020.22	786.60	-653.38	-931.06	40°01'03.419"N	104°53'40.643"W	1.22	
5282.00	14.850	233.680	5099.93	802.89	-666.99	-949.74	40°01'03.284"N	104°53'40.883"W	3.20	
5367.00	12.110	235.580	5182.58	816.69	-678.49	-965.88	40°01'03.171"N	104°53'41.090"W	3.26	
5452.00	10.050	232.860	5265.99	828.10	-688.01	-979.15	40°01'03.077"N	104°53'41.261"W	2.50	
5537.00	7.730	232.770	5349.97	837.53	-695.94	-989.61	40°01'02.998"N	104°53'41.395"W	2.73	
5623.00	6.700	235.140	5435.28	845.14	-702.31	-998.33	40°01'02.935"N	104°53'41.507"W	1.25	
5707.00	5.110	237.070	5518.84	851.00	-707.15	-1005.49	40°01'02.888"N	104°53'41.600"W	1.91	
5793.00	3.580	233.400	5604.59	855.45	-710.83	-1010.86	40°01'02.851"N	104°53'41.669"W	1.81	
5879.00	2.620	223.510	5690.46	858.98	-713.85	-1014.37	40°01'02.821"N	104°53'41.714"W	1.27	
5964.00	1.180	251.540	5775.41	860.97	-715.54	-1016.54	40°01'02.805"N	104°53'41.742"W	1.97	
6049.00	0.460	314.530	5860.40	861.17	-715.58	-1017.61	40°01'02.804"N	104°53'41.755"W	1.24	
6132.00	0.370	273.640	5943.40	861.00	-715.33	-1018.12	40°01'02.807"N	104°53'41.762"W	0.36	
6218.00	0.560	269.310	6029.40	861.09	-715.32	-1018.82	40°01'02.807"N	104°53'41.771"W	0.22	
6303.00	0.550	285.020	6114.40	861.12	-715.21	-1019.63	40°01'02.808"N	104°53'41.781"W	0.18	
6388.00	0.770	227.960	6199.39	861.51	-715.49	-1020.44	40°01'02.805"N	104°53'41.792"W	0.78	
6430.00	1.870	204.170	6241.38	862.39	-716.31	-1020.93	40°01'02.797"N	104°53'41.798"W	2.87	
6473.00	2.460	213.940	6284.35	863.90	-717.71	-1021.74	40°01'02.783"N	104°53'41.808"W	1.61	
6516.00	3.440	208.580	6327.29	865.95	-719.61	-1022.87	40°01'02.764"N	104°53'41.823"W	2.37	
6558.00	4.120	206.790	6369.20	868.57	-722.06	-1024.15	40°01'02.740"N	104°53'41.839"W	1.64	
6606.00	5.120	200.470	6417.04	872.31	-725.61	-1025.68	40°01'02.705"N	104°53'41.859"W	2.33	
6649.00	6.110	194.220	6459.84	876.46	-729.63	-1026.91	40°01'02.665"N	104°53'41.875"W	2.70	
6691.00	7.370	190.320	6501.55	881.38	-734.44	-1027.94	40°01'02.618"N	104°53'41.888"W	3.19	
6734.00	8.040	188.570	6544.16	887.14	-740.13	-1028.89	40°01'02.562"N	104°53'41.900"W	1.65	
6777.00	9.570	184.200	6586.65	893.71	-746.67	-1029.60	40°01'02.497"N	104°53'41.909"W	3.88	
6819.00	10.650	184.580	6628.00	901.07	-754.02	-1030.16	40°01'02.424"N	104°53'41.917"W	2.58	
6862.00	12.130	182.860	6670.15	909.52	-762.49	-1030.70	40°01'02.341"N	104°53'41.924"W	3.53	
6904.00	13.610	181.040	6711.09	918.81	-771.84	-1031.01	40°01'02.248"N	104°53'41.927"W	3.65	
6947.00	15.450	178.210	6752.72	929.46	-782.63	-1030.93	40°01'02.142"N	104°53'41.926"W	4.59	
6989.00	16.920	177.030	6793.05	940.95	-794.32	-1030.44	40°01'02.026"N	104°53'41.920"W	3.59	
7032.00	17.970	175.140	6834.07	953.52	-807.18	-1029.55	40°01'01.899"N	104°53'41.909"W	2.77	
7075.00	19.220	173.980	6874.83	966.82	-820.83	-1028.24	40°01'01.764"N	104°53'41.892"W	3.03	

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP		Slot	SLOT#19 HOWARD 36N-33HZ (1671'FSL & 1466'FEL, SEC.28)
Area	COLORADO		Well	HOWARD 36N-33HZ
Field	WELD COUNTY (KERR MCGEE)		Wellbore	HOWARD 36N-33HZ AWP
Facility	SEC.28-T1N-R67W			

WELLPATH DATA (181 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7117.00	21.210	172.450	6914.24	980.80	-835.24	-1026.52	40°01'01.622"N	104°53'41.870"W	4.90	
7159.00	23.970	171.240	6953.01	996.24	-851.20	-1024.22	40°01'01.464"N	104°53'41.840"W	6.66	
7201.00	25.710	169.330	6991.13	1012.97	-868.59	-1021.24	40°01'01.292"N	104°53'41.802"W	4.56	
7243.00	30.000	169.750	7028.25	1031.51	-887.88	-1017.68	40°01'01.101"N	104°53'41.756"W	10.22	
7286.00	33.670	169.740	7064.78	1052.95	-910.20	-1013.64	40°01'00.881"N	104°53'41.704"W	8.53	
7328.00	36.210	168.250	7099.20	1075.59	-933.80	-1009.04	40°01'00.648"N	104°53'41.645"W	6.38	
7371.00	39.030	168.260	7133.26	1100.19	-959.50	-1003.70	40°01'00.394"N	104°53'41.576"W	6.56	
7413.00	40.980	172.290	7165.44	1125.80	-986.10	-999.16	40°01'00.131"N	104°53'41.518"W	7.72	
7456.00	45.030	178.020	7196.89	1154.29	-1015.30	-996.74	40°00'59.842"N	104°53'41.487"W	13.08	
7498.00	49.480	182.410	7225.39	1184.79	-1046.12	-996.90	40°00'59.538"N	104°53'41.489"W	13.08	
7541.00	54.760	184.210	7251.79	1218.56	-1079.99	-998.88	40°00'59.203"N	104°53'41.514"W	12.71	
7583.00	56.170	184.870	7275.60	1253.07	-1114.48	-1001.62	40°00'58.862"N	104°53'41.549"W	3.60	
7626.00	57.500	184.300	7299.12	1288.97	-1150.36	-1004.49	40°00'58.508"N	104°53'41.586"W	3.29	
7668.00	58.240	183.220	7321.46	1324.41	-1185.85	-1006.82	40°00'58.157"N	104°53'41.616"W	2.80	
7711.00	59.300	182.280	7343.75	1360.98	-1222.57	-1008.59	40°00'57.794"N	104°53'41.639"W	3.09	
7754.00	59.730	181.960	7365.57	1397.79	-1259.60	-1009.96	40°00'57.428"N	104°53'41.657"W	1.19	
7796.00	60.830	180.830	7386.39	1433.97	-1296.07	-1010.84	40°00'57.068"N	104°53'41.668"W	3.51	
7839.00	61.900	180.350	7407.00	1471.33	-1333.80	-1011.23	40°00'56.695"N	104°53'41.673"W	2.67	
7881.00	62.920	180.090	7426.45	1508.15	-1371.03	-1011.37	40°00'56.327"N	104°53'41.675"W	2.49	
7924.00	63.880	179.080	7445.70	1546.11	-1409.47	-1011.09	40°00'55.947"N	104°53'41.671"W	3.07	
7967.00	65.590	179.800	7464.05	1584.49	-1448.36	-1010.72	40°00'55.563"N	104°53'41.666"W	4.26	
8009.00	66.720	180.460	7481.03	1622.47	-1486.77	-1010.80	40°00'55.183"N	104°53'41.667"W	3.05	
8052.00	67.980	180.520	7497.59	1661.75	-1526.45	-1011.14	40°00'54.791"N	104°53'41.672"W	2.93	
8095.00	68.990	180.650	7513.36	1701.35	-1566.45	-1011.55	40°00'54.396"N	104°53'41.677"W	2.37	
8137.00	70.400	180.050	7527.94	1740.32	-1605.84	-1011.79	40°00'54.006"N	104°53'41.680"W	3.61	
8180.00	71.170	180.650	7542.09	1780.50	-1646.44	-1012.04	40°00'53.605"N	104°53'41.683"W	2.22	
8222.00	71.900	180.960	7555.39	1819.96	-1686.28	-1012.60	40°00'53.212"N	104°53'41.690"W	1.87	
8265.00	72.830	180.920	7568.42	1860.56	-1727.25	-1013.27	40°00'52.807"N	104°53'41.699"W	2.16	
8308.00	74.380	180.610	7580.55	1901.42	-1768.50	-1013.82	40°00'52.399"N	104°53'41.706"W	3.67	
8350.00	76.080	181.670	7591.26	1941.68	-1809.10	-1014.63	40°00'51.998"N	104°53'41.716"W	4.73	
8393.00	78.220	181.130	7600.82	1983.26	-1851.01	-1015.65	40°00'51.584"N	104°53'41.730"W	5.13	
8435.00	79.860	180.690	7608.81	2024.11	-1892.24	-1016.31	40°00'51.176"N	104°53'41.738"W	4.04	
8477.00	81.850	181.330	7615.48	2065.20	-1933.69	-1017.04	40°00'50.766"N	104°53'41.747"W	4.97	
8519.00	83.240	180.780	7620.93	2106.48	-1975.33	-1017.81	40°00'50.355"N	104°53'41.757"W	3.56	
8562.00	84.000	181.570	7625.71	2148.84	-2018.05	-1018.68	40°00'49.933"N	104°53'41.768"W	2.54	
8604.00	85.310	181.070	7629.62	2190.31	-2059.86	-1019.65	40°00'49.520"N	104°53'41.781"W	3.34	
8646.00	87.150	180.790	7632.39	2231.84	-2101.76	-1020.33	40°00'49.106"N	104°53'41.789"W	4.43	
8689.00	89.070	180.370	7633.80	2274.38	-2144.73	-1020.76	40°00'48.681"N	104°53'41.795"W	4.57	
8724.00†	89.420	180.370	7634.26	2309.01	-2179.73	-1020.99	40°00'48.335"N	104°53'41.798"W	1.00	7" CASING POINT
8731.00	89.490	180.370	7634.33	2315.93	-2186.73	-1021.03	40°00'48.266"N	104°53'41.798"W	1.00	
8789.00	90.000	179.980	7634.59	2373.29	-2244.73	-1021.21	40°00'47.693"N	104°53'41.801"W	1.11	
8874.00	89.660	179.530	7634.84	2457.26	-2329.73	-1020.85	40°00'46.853"N	104°53'41.796"W	0.66	
8959.00	89.660	179.420	7635.35	2541.16	-2414.72	-1020.07	40°00'46.013"N	104°53'41.786"W	0.13	
9045.00	90.460	178.770	7635.26	2625.96	-2500.71	-1018.71	40°00'45.163"N	104°53'41.768"W	1.20	
9130.00	90.920	178.780	7634.23	2709.68	-2585.68	-1016.89	40°00'44.323"N	104°53'41.745"W	0.54	

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP		Slot	SLOT#19 HOWARD 36N-33HZ (1671'FSL & 1466'FEL, SEC.28)
Area	COLORADO		Well	HOWARD 36N-33HZ
Field	WELD COUNTY (KERR MCGEE)		Wellbore	HOWARD 36N-33HZ AWP
Facility	SEC.28-T1N-R67W			

WELLPATH DATA (181 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
9215.00	90.210	179.690	7633.39	2793.52	-2670.67	-1015.76	40°00'43.483"N	104°53'41.730"W	1.36	
9300.00	90.030	178.150	7633.22	2877.28	-2755.65	-1014.16	40°00'42.644"N	104°53'41.710"W	1.82	
9385.00	89.690	177.980	7633.42	2960.82	-2840.60	-1011.29	40°00'41.804"N	104°53'41.673"W	0.45	
9470.00	89.810	177.070	7633.79	3044.21	-2925.52	-1007.62	40°00'40.965"N	104°53'41.626"W	1.08	
9555.00	89.380	178.660	7634.40	3127.69	-3010.46	-1004.45	40°00'40.126"N	104°53'41.585"W	1.94	
9640.00	90.400	179.740	7634.56	3211.53	-3095.45	-1003.26	40°00'39.286"N	104°53'41.570"W	1.75	
9723.00	91.200	179.830	7633.40	3293.52	-3178.44	-1002.95	40°00'38.466"N	104°53'41.566"W	0.97	
9808.00	90.240	180.230	7632.33	3377.54	-3263.43	-1002.99	40°00'37.626"N	104°53'41.566"W	1.22	
9893.00	89.900	179.190	7632.23	3461.50	-3348.43	-1002.56	40°00'36.786"N	104°53'41.561"W	1.29	
9978.00	90.120	178.920	7632.21	3545.30	-3433.42	-1001.16	40°00'35.946"N	104°53'41.542"W	0.41	
10063.00	90.030	180.120	7632.10	3629.21	-3518.41	-1000.45	40°00'35.106"N	104°53'41.533"W	1.42	
10148.00	88.980	180.110	7632.84	3713.25	-3603.41	-1000.62	40°00'34.266"N	104°53'41.535"W	1.24	
10233.00	89.080	180.460	7634.28	3797.33	-3688.39	-1001.04	40°00'33.426"N	104°53'41.541"W	0.43	
10318.00	89.870	183.860	7635.05	3881.76	-3773.32	-1004.25	40°00'32.587"N	104°53'41.582"W	4.11	
10403.00	89.100	184.150	7635.82	3966.47	-3858.10	-1010.18	40°00'31.749"N	104°53'41.658"W	0.97	
10488.00	89.170	184.350	7637.10	4051.20	-3942.86	-1016.48	40°00'30.911"N	104°53'41.739"W	0.25	
10572.00	89.880	182.710	7637.80	4134.86	-4026.70	-1021.65	40°00'30.083"N	104°53'41.805"W	2.13	
10657.00	88.680	182.090	7638.87	4219.33	-4111.61	-1025.21	40°00'29.244"N	104°53'41.851"W	1.59	
10742.00	89.320	181.970	7640.35	4303.75	-4196.55	-1028.22	40°00'28.404"N	104°53'41.890"W	0.77	
10827.00	89.870	180.180	7640.95	4387.99	-4281.52	-1029.82	40°00'27.565"N	104°53'41.910"W	2.20	
10912.00	90.210	180.490	7640.89	4472.09	-4366.52	-1030.31	40°00'26.725"N	104°53'41.917"W	0.54	
10998.00	90.120	179.910	7640.64	4557.14	-4452.52	-1030.62	40°00'25.875"N	104°53'41.920"W	0.68	
11083.00	90.090	178.700	7640.49	4641.00	-4537.51	-1029.58	40°00'25.035"N	104°53'41.907"W	1.42	
11168.00	88.950	177.760	7641.20	4724.58	-4622.47	-1026.96	40°00'24.195"N	104°53'41.873"W	1.74	
11253.00	89.870	179.490	7642.07	4808.27	-4707.43	-1024.92	40°00'23.356"N	104°53'41.847"W	2.31	
11338.00	88.920	179.160	7642.97	4892.13	-4792.42	-1023.92	40°00'22.516"N	104°53'41.834"W	1.18	
11423.00	89.780	180.190	7643.94	4976.07	-4877.41	-1023.44	40°00'21.676"N	104°53'41.828"W	1.58	
11509.00	90.860	181.480	7643.46	5061.26	-4963.40	-1024.69	40°00'20.826"N	104°53'41.844"W	1.96	
11593.00	91.040	181.400	7642.06	5144.57	-5047.36	-1026.80	40°00'19.996"N	104°53'41.871"W	0.23	
11677.00	90.240	179.310	7641.13	5227.67	-5131.35	-1027.32	40°00'19.166"N	104°53'41.878"W	2.66	
11762.00	91.380	179.770	7639.92	5311.58	-5216.34	-1026.64	40°00'18.326"N	104°53'41.869"W	1.45	
11847.00	90.730	178.630	7638.36	5395.40	-5301.31	-1025.45	40°00'17.487"N	104°53'41.854"W	1.54	
11932.00	87.340	175.310	7639.79	5478.59	-5386.16	-1020.96	40°00'16.648"N	104°53'41.796"W	5.58	
12017.00	87.930	176.240	7643.30	5561.37	-5470.85	-1014.70	40°00'15.811"N	104°53'41.715"W	1.29	
12103.00	88.610	178.220	7645.89	5645.61	-5556.71	-1010.55	40°00'14.963"N	104°53'41.662"W	2.43	
12188.00	90.220	178.550	7646.76	5729.23	-5641.67	-1008.16	40°00'14.123"N	104°53'41.631"W	1.93	
12273.00	91.140	179.400	7645.75	5813.01	-5726.65	-1006.64	40°00'13.283"N	104°53'41.612"W	1.47	
12359.00	91.260	178.880	7643.95	5897.79	-5812.62	-1005.34	40°00'12.434"N	104°53'41.595"W	0.62	
12444.00	92.310	179.150	7641.30	5981.54	-5897.56	-1003.88	40°00'11.594"N	104°53'41.576"W	1.28	
12529.00	91.750	180.570	7638.29	6065.48	-5982.51	-1003.68	40°00'10.755"N	104°53'41.573"W	1.79	
12614.00	91.600	179.470	7635.81	6149.47	-6067.47	-1003.71	40°00'09.915"N	104°53'41.574"W	1.31	
12699.00	89.690	178.360	7634.85	6233.22	-6152.44	-1002.10	40°00'09.076"N	104°53'41.553"W	2.60	
12785.00	89.540	178.140	7635.43	6317.80	-6238.40	-999.47	40°00'08.226"N	104°53'41.519"W	0.31	
12870.00	89.380	177.140	7636.23	6401.21	-6323.32	-995.97	40°00'07.387"N	104°53'41.474"W	1.19	
12951.00	88.800	175.800	7637.52	6480.37	-6404.16	-990.98	40°00'06.588"N	104°53'41.410"W	1.80	LAST BHI MWD+IFR SURVEY

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP		Slot	SLOT#19 HOWARD 36N-33HZ (1671'FSL & 1466'FEL, SEC.28)
Area	COLORADO		Well	HOWARD 36N-33HZ
Field	WELD COUNTY (KERR MCGEE)		Wellbore	HOWARD 36N-33HZ AWB
Facility	SEC.28-T1N-R67W			

WELLPATH DATA (181 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13003.00	88.800	175.800	7638.61	6531.04	-6456.01	-987.18	40°00'06.076"N	104°53'41.361"W	0.00	PROJECTION TO BIT

HOLE & CASING SECTIONS - Ref Wellbore: HOWARD 36N-33HZ AWB Ref Wellpath: HOWARD 36N-33HZ 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	1032.00	1016.00	16.00	1031.99	0.00	0.00	0.91	-4.55	
9.625in Casing Surface	16.00	1032.00	1016.00	16.00	1031.99	0.00	0.00	0.91	-4.55	
8.75in Open Hole	1032.00	8734.00	7702.00	1031.99	7634.36	0.91	-4.55	-2189.73	-1021.05	
7in Casing Intermediate	16.00	8724.00	8708.00	16.00	7634.26	0.00	0.00	-2179.73	-1020.99	
6.125in Open Hole	8734.00	13003.00	4269.00	7634.36	7638.61	-2189.73	-1021.05	-6456.01	-987.18	

TARGETS										
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	
HOWARD 14W-28HZ PAD SEC.28 LINES		-1.00	-1378.29	-2566.88	3167922.66	1249106.69	40°00'56.254"N	104°54'01.667"W	polygon	
SECTION 33 LINES		-1.00	-1167.43	-2343.64	3168144.45	1249319.07	40°00'58.338"N	104°53'58.798"W	polygon	
HOWARD 36N-33HZ BHL ON PLAT REV-1 (460'FSL & 2490'FEL, SEC.33)	7639.00		-6481.39	-1004.11	3169520.36	1244014.63	40°00'05.825"N	104°53'41.579"W	point	
HOWARD 36N-33HZ BHL ON PLAT REV-2 (460'FSL & 2490'FEL, SEC.33)	7649.00		-6481.39	-1004.11	3169520.37	1244014.63	40°00'05.825"N	104°53'41.579"W	point	
HOWARD 36N-33HZ LAND BOX	7799.00		0.00	0.00	3170479.93	1250502.52	40°01'09.876"N	104°53'28.676"W	point	

WELLPATH COMPOSITION - Ref Wellbore: HOWARD 36N-33HZ AWB Ref Wellpath: HOWARD 36N-33HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	954.00	Generic gyro - continuous (Standard)	MS GYRODATA SURVEYS <116-954>	HOWARD 36N-33HZ AWB
954.00	8689.00	NaviTrak (MAGCORR,IFR)	BHI NAVITRAK MWD+IFR 8 3/4" <1058-8689>	HOWARD 36N-33HZ AWB
8689.00	12951.00	NaviTrak (MAGCORR,IFR)	BHI NAVITRAK MWD+IFR 6 1/8" <8731-12951>	HOWARD 36N-33HZ AWB
12951.00	13003.00	Blind Drilling (std)	Projection to bit	HOWARD 36N-33HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#19 HOWARD 36N-33HZ (1671'FSL & 1466'FEL, SEC.28)
Area	COLORADO	Well	HOWARD 36N-33HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HOWARD 36N-33HZ AWB
Facility	SEC.28-T1N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
16.00	0.000	301.610	16.00	TIE-ON
116.00	0.330	301.610	116.00	BEGIN GYRO SURVEYS
954.00	0.470	320.840	953.99	TIE ONTO GYROS
1058.00	0.220	297.520	1057.99	BEGIN BHI MWD+IFR SURVEYS
8724.00	89.420	180.370	7634.26	7" CASING POINT
12951.00	88.800	175.800	7637.52	LAST BHI MWD+IFR SURVEY
13003.00	88.800	175.800	7638.61	PROJECTION TO BIT