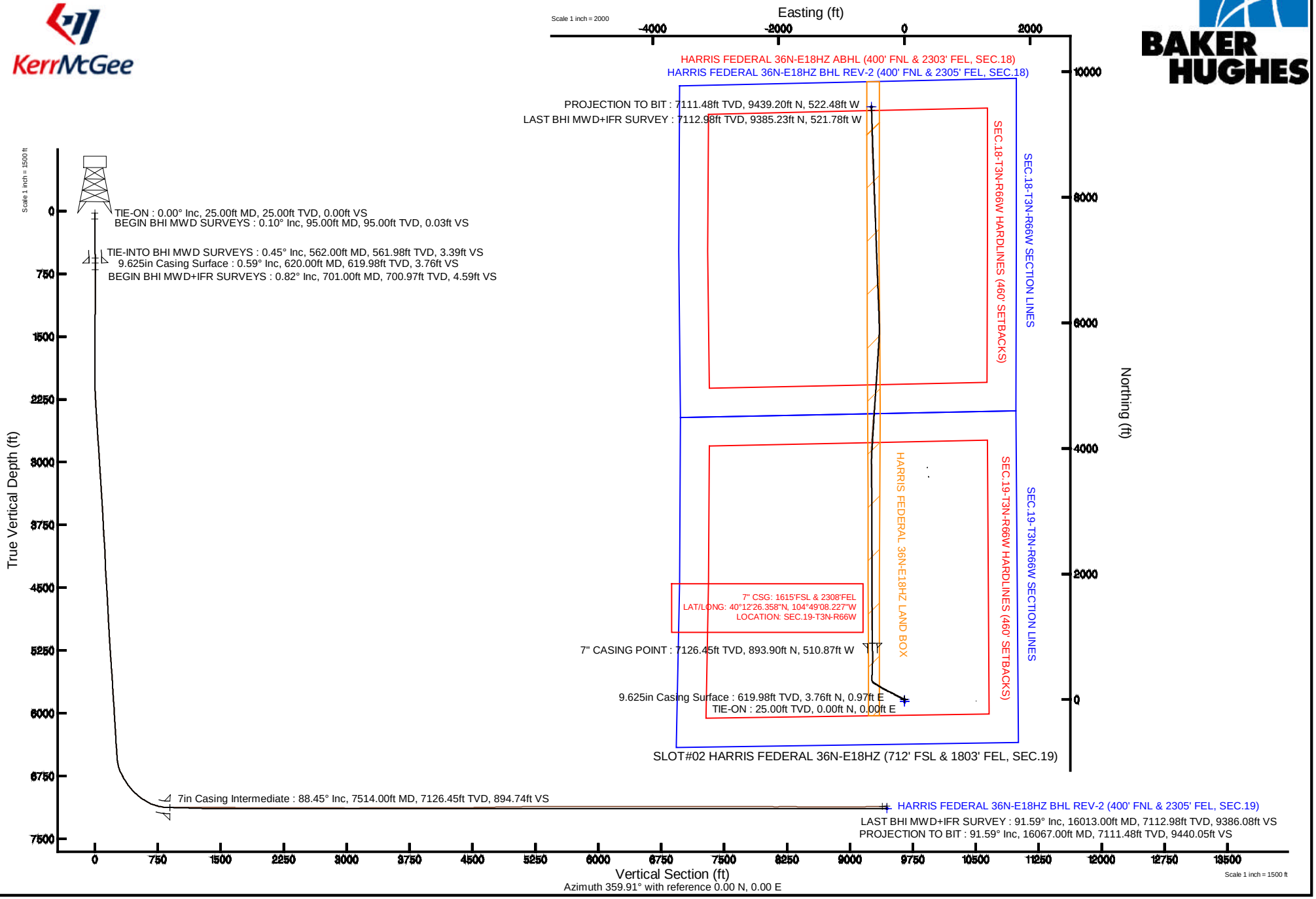
KERR-MCGEE OIL & GAS ONSHORE LP

Location:	COLORADO	Slot:	SLOT#02 HARRIS FEDERAL 36N-E18HZ (712' FSL & 1803' FEL, SEC.19)
Field:	WELD COUNTY (KERR MCGEE)	Well:	HARRIS FEDERAL 36N-E18HZ
Facility:	SEC.19-T3N-R66W	Wellbore:	HARRIS FEDERAL 36N-E18HZ PWB

Plot reference wellpath is HARRIS FEDERAL 36N-E18HZ (REV-C.0) PWP

True vertical depths are referenced to H&P 307 (25' RKB) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to H&P 307 (25' RKB) (RKB)	North Reference: True north
H&P 307 (25' RKB) (RKB) to Mean Sea Level: 4857 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#02 HARRIS FEDERAL 36N-E18HZ (712' FSL & 1803' FEL, SEC.19)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: robiale01 on 04/Dec/2013



Actual Wellpath Report

HARRIS FEDERAL 36N-E18HZ AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#02 HARRIS FEDERAL 36N-E18HZ (712' FSL & 1803' FEL, SEC.19)**
Area	**COLORADO**	Well	**HARRIS FEDERAL 36N-E18HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**HARRIS FEDERAL 36N-E18HZ AWB**
Facility	**SEC.19-T3N-R66W**		

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	**0.999957**	Report Generated	**04/Dec/2013** at **14:44**
Convergence at slot	**n/a**	Database/Source file	**WellArchitectDB/HARRIS_FEDERAL_36N-E18HZ_AWB.xml**

WELLPATH LOCATION						
	Local coordinates		**Grid coordinates**		**Geographic coordinates**	
	North[ft]	**East[ft]**	**Easting[US ft]**	**Northing[US ft]**	**Latitude**	**Longitude**
Slot Location	29.95	-2.87	3190733.83	1318210.23	**40°12'17.525"N**	**104°49'01.643"W**
Facility Reference Pt			3190736.93	1318180.30	**40°12'17.229"N**	**104°49'01.606"W**
Field Reference Pt			**3197771.84**	**1268891.29**	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	**Minimum curvature**	H&P 307 (25' RKB) (RKB) to Facility Vertical Datum	**4857.00ft**
Horizontal Reference Pt	**Slot**	H&P 307 (25' RKB) (RKB) to Mean Sea Level	**4857.00ft**
Vertical Reference Pt	**H&P 307 (25' RKB) (RKB)**	H&P 307 (25' RKB) (RKB) to Mud Line at Slot (SLOT#02 HARRIS FEDERAL 36N-E18HZ (712' FSL & 1803' FEL, SEC.19))	**4857.00ft**
MD Reference Pt	**H&P 307 (25' RKB) (RKB)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**359.91°**

Actual Wellpath Report

HARRIS FEDERAL 36N-E18HZ AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#02 HARRIS FEDERAL 36N-E18HZ (712' FSL & 1803' FEL, SEC.19)**
Area	**COLORADO**	Well	**HARRIS FEDERAL 36N-E18HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**HARRIS FEDERAL 36N-E18HZ AWB**
Facility	**SEC.19-T3N-R66W**		

WELLPATH DATA (189 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	303.640	0.00	0.00	0.00	0.00	40°12'17.525"N	104°49'01.643"W	0.00	
25.00	0.000	303.640	25.00	0.00	0.00	0.00	40°12'17.525"N	104°49'01.643"W	0.00	TIE-ON
95.00	0.100	303.640	95.00	0.03	0.03	-0.05	40°12'17.525"N	104°49'01.644"W	0.14	BEGIN BHI MWD SURVEYS
185.00	0.130	321.790	185.00	0.16	0.16	-0.18	40°12'17.527"N	104°49'01.645"W	0.05	
269.00	0.250	333.900	269.00	0.40	0.40	-0.32	40°12'17.529"N	104°49'01.647"W	0.15	
393.00	0.870	22.980	392.99	1.51	1.51	-0.07	40°12'17.540"N	104°49'01.644"W	0.59	
484.00	0.730	8.080	483.98	2.72	2.72	0.28	40°12'17.552"N	104°49'01.639"W	0.27	
562.00	0.450	52.540	561.98	3.39	3.39	0.59	40°12'17.559"N	104°49'01.635"W	0.66	TIE-INTO BHI MWD SURVEYS
701.00	0.820	29.780	700.97	4.59	4.59	1.52	40°12'17.570"N	104°49'01.623"W	0.32	BEGIN BHI MWD+IFR SURVEYS
792.00	0.450	198.290	791.97	4.81	4.82	1.73	40°12'17.573"N	104°49'01.621"W	1.39	
944.00	0.130	235.240	943.97	4.15	4.15	1.40	40°12'17.566"N	104°49'01.625"W	0.23	
1163.00	0.330	185.840	1162.97	3.38	3.38	1.14	40°12'17.558"N	104°49'01.628"W	0.12	
1346.00	0.190	226.530	1345.96	2.65	2.65	0.86	40°12'17.551"N	104°49'01.632"W	0.12	
1527.00	0.380	207.150	1526.96	1.91	1.91	0.37	40°12'17.544"N	104°49'01.638"W	0.12	
1709.00	0.440	222.140	1708.96	0.85	0.85	-0.37	40°12'17.533"N	104°49'01.648"W	0.07	
1891.00	0.830	217.700	1890.95	-0.71	-0.71	-1.65	40°12'17.518"N	104°49'01.664"W	0.22	
1981.00	1.320	282.900	1980.93	-0.99	-0.99	-3.06	40°12'17.515"N	104°49'01.682"W	1.37	
2071.00	2.740	298.970	2070.87	0.29	0.28	-5.95	40°12'17.528"N	104°49'01.720"W	1.68	
2162.00	4.590	304.800	2161.68	3.43	3.41	-10.84	40°12'17.559"N	104°49'01.783"W	2.07	
2253.00	5.300	300.680	2252.35	7.66	7.64	-17.45	40°12'17.600"N	104°49'01.868"W	0.87	
2345.00	6.820	300.340	2343.83	12.61	12.56	-25.82	40°12'17.649"N	104°49'01.976"W	1.65	
2435.00	7.900	296.820	2433.09	18.11	18.05	-35.95	40°12'17.703"N	104°49'02.106"W	1.30	
2526.00	7.260	295.890	2523.29	23.46	23.39	-46.70	40°12'17.756"N	104°49'02.245"W	0.72	
2617.00	8.780	296.970	2613.40	29.14	29.05	-58.07	40°12'17.812"N	104°49'02.391"W	1.68	
2709.00	8.840	296.390	2704.31	35.49	35.37	-70.66	40°12'17.875"N	104°49'02.554"W	0.12	
2799.00	8.810	296.160	2793.25	41.62	41.49	-83.04	40°12'17.935"N	104°49'02.713"W	0.05	
2885.00	8.630	296.990	2878.25	47.47	47.32	-94.70	40°12'17.993"N	104°49'02.864"W	0.26	
3055.00	6.860	297.240	3046.70	57.94	57.75	-115.09	40°12'18.096"N	104°49'03.126"W	1.04	
3140.00	7.760	295.550	3131.00	62.76	62.55	-124.78	40°12'18.143"N	104°49'03.251"W	1.09	
3225.00	7.990	297.270	3215.20	67.96	67.73	-135.21	40°12'18.194"N	104°49'03.386"W	0.39	
3310.00	7.700	300.200	3299.41	73.54	73.30	-145.39	40°12'18.249"N	104°49'03.517"W	0.58	
3395.00	7.230	300.300	3383.69	79.12	78.87	-154.92	40°12'18.304"N	104°49'03.640"W	0.55	
3481.00	6.840	304.350	3469.04	84.76	84.49	-163.83	40°12'18.360"N	104°49'03.754"W	0.73	
3566.00	6.530	303.140	3553.46	90.27	89.99	-172.05	40°12'18.414"N	104°49'03.860"W	0.40	
3652.00	5.510	296.100	3638.99	94.77	94.48	-179.85	40°12'18.459"N	104°49'03.961"W	1.46	
3737.00	6.330	293.730	3723.53	98.47	98.16	-187.81	40°12'18.495"N	104°49'04.064"W	1.01	
3822.00	7.100	296.820	3807.95	102.74	102.41	-196.79	40°12'18.537"N	104°49'04.179"W	1.00	
3908.00	8.150	297.720	3893.19	107.99	107.65	-206.93	40°12'18.589"N	104°49'04.310"W	1.23	
3993.00	7.750	298.700	3977.37	113.56	113.20	-217.29	40°12'18.644"N	104°49'04.443"W	0.50	
4078.00	7.110	296.200	4061.66	118.65	118.28	-227.03	40°12'18.694"N	104°49'04.569"W	0.84	
4163.00	5.810	290.270	4146.12	122.48	122.09	-235.79	40°12'18.731"N	104°49'04.682"W	1.72	
4249.00	6.540	286.520	4231.62	125.39	124.99	-244.57	40°12'18.760"N	104°49'04.795"W	0.97	
4334.00	8.030	292.630	4315.93	129.07	128.65	-254.69	40°12'18.796"N	104°49'04.926"W	1.97	
4419.00	7.380	300.180	4400.16	134.12	133.68	-264.89	40°12'18.846"N	104°49'05.057"W	1.41	
4505.00	6.930	298.400	4485.49	139.38	138.92	-274.23	40°12'18.898"N	104°49'05.177"W	0.58	

Actual Wellpath Report

HARRIS FEDERAL 36N-E18HZ AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#02 HARRIS FEDERAL 36N-E18HZ (712' FSL & 1803' FEL, SEC.19)**
Area	**COLORADO**	Well	**HARRIS FEDERAL 36N-E18HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**HARRIS FEDERAL 36N-E18HZ AWB**
Facility	**SEC.19-T3N-R66W**		

WELLPATH DATA (189 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4590.00	7.710	299.380	4569.80	144.63	144.16	-283.71	40°12'18.950"N	104°49'05.300"W	0.93	
4675.00	7.100	297.460	4654.09	149.86	149.38	-293.34	40°12'19.001"N	104°49'05.424"W	0.77	
4760.00	6.770	296.670	4738.47	154.55	154.05	-302.48	40°12'19.047"N	104°49'05.541"W	0.40	
4845.00	5.920	294.370	4822.95	158.62	158.11	-310.95	40°12'19.087"N	104°49'05.651"W	1.04	
4931.00	6.570	295.220	4908.44	162.56	162.04	-319.44	40°12'19.126"N	104°49'05.760"W	0.76	
5016.00	7.330	298.900	4992.81	167.27	166.73	-328.58	40°12'19.173"N	104°49'05.878"W	1.04	
5059.00	6.940	296.740	5035.48	169.77	169.22	-333.30	40°12'19.197"N	104°49'05.939"W	1.10	
5144.00	6.650	298.760	5119.88	174.46	173.90	-342.21	40°12'19.243"N	104°49'06.053"W	0.44	
5229.00	7.110	304.020	5204.27	179.79	179.21	-350.88	40°12'19.296"N	104°49'06.165"W	0.92	
5314.00	6.530	303.010	5288.67	185.38	184.79	-359.29	40°12'19.351"N	104°49'06.274"W	0.70	
5400.00	7.380	306.420	5374.04	191.34	190.73	-367.84	40°12'19.410"N	104°49'06.384"W	1.10	
5485.00	7.020	305.060	5458.37	197.58	196.96	-376.48	40°12'19.471"N	104°49'06.495"W	0.47	
5570.00	6.320	302.940	5542.79	203.12	202.49	-384.66	40°12'19.526"N	104°49'06.601"W	0.87	
5656.00	7.450	299.160	5628.17	208.42	207.78	-393.50	40°12'19.578"N	104°49'06.715"W	1.41	
5741.00	6.870	295.670	5712.51	213.33	212.66	-402.90	40°12'19.626"N	104°49'06.836"W	0.85	
5826.00	7.240	304.730	5796.87	218.59	217.92	-411.88	40°12'19.678"N	104°49'06.951"W	1.38	
5911.00	6.880	302.050	5881.22	224.36	223.67	-420.60	40°12'19.735"N	104°49'07.064"W	0.57	
5997.00	6.100	302.330	5966.67	229.55	228.85	-428.83	40°12'19.786"N	104°49'07.170"W	0.91	
6082.00	6.940	302.620	6051.12	234.75	234.03	-436.97	40°12'19.838"N	104°49'07.275"W	0.99	
6167.00	6.350	299.110	6135.55	239.82	239.09	-445.40	40°12'19.888"N	104°49'07.383"W	0.84	
6252.00	7.340	298.960	6219.94	244.75	244.00	-454.26	40°12'19.936"N	104°49'07.498"W	1.16	
6337.00	6.940	296.110	6304.28	249.65	248.89	-463.62	40°12'19.984"N	104°49'07.618"W	0.63	
6422.00	7.700	305.310	6388.59	255.22	254.44	-472.88	40°12'20.039"N	104°49'07.738"W	1.64	
6508.00	6.950	303.520	6473.89	261.44	260.65	-481.92	40°12'20.101"N	104°49'07.854"W	0.91	
6551.00	6.720	303.850	6516.58	264.28	263.48	-486.18	40°12'20.129"N	104°49'07.909"W	0.54	
6593.00	8.220	305.920	6558.23	267.42	266.61	-490.65	40°12'20.160"N	104°49'07.967"W	3.63	
6636.00	13.880	315.250	6600.42	272.90	272.09	-496.77	40°12'20.214"N	104°49'08.046"W	13.76	
6678.00	19.950	322.050	6640.58	282.15	281.32	-504.74	40°12'20.305"N	104°49'08.148"W	15.18	
6721.00	23.940	335.190	6680.48	295.88	295.04	-512.92	40°12'20.441"N	104°49'08.254"W	14.66	
6764.00	26.620	349.930	6719.40	313.32	312.47	-518.27	40°12'20.613"N	104°49'08.323"W	15.86	
6806.00	28.640	1.360	6756.64	332.66	331.81	-519.67	40°12'20.804"N	104°49'08.341"W	13.48	
6849.00	31.480	4.760	6793.85	354.16	353.30	-518.50	40°12'21.016"N	104°49'08.326"W	7.70	
6892.00	33.820	5.400	6830.05	377.26	376.41	-516.44	40°12'21.245"N	104°49'08.299"W	5.50	
6934.00	36.910	5.070	6864.30	401.46	400.61	-514.23	40°12'21.484"N	104°49'08.271"W	7.37	
6977.00	39.820	4.070	6898.01	428.06	427.22	-512.11	40°12'21.747"N	104°49'08.243"W	6.92	
7019.00	43.520	359.470	6929.39	455.95	455.11	-511.29	40°12'22.022"N	104°49'08.233"W	11.42	
7062.00	47.010	359.130	6959.65	486.49	485.64	-511.66	40°12'22.324"N	104°49'08.238"W	8.14	
7104.00	50.820	1.350	6987.25	518.13	517.29	-511.51	40°12'22.637"N	104°49'08.236"W	9.91	
7147.00	54.640	3.500	7013.28	552.31	551.47	-510.05	40°12'22.975"N	104°49'08.217"W	9.73	
7189.00	57.640	2.740	7036.68	587.13	586.29	-508.15	40°12'23.319"N	104°49'08.192"W	7.30	
7232.00	60.160	1.400	7058.89	623.92	623.08	-506.83	40°12'23.682"N	104°49'08.175"W	6.44	
7274.00	66.270	359.830	7077.81	661.39	660.55	-506.44	40°12'24.053"N	104°49'08.170"W	14.92	
7317.00	71.050	358.440	7093.45	701.42	700.59	-507.05	40°12'24.448"N	104°49'08.178"W	11.52	
7360.00	75.020	358.870	7106.00	742.53	741.70	-508.02	40°12'24.854"N	104°49'08.191"W	9.28	
7402.00	78.900	358.920	7115.47	783.44	782.60	-508.81	40°12'25.259"N	104°49'08.201"W	9.24	

Actual Wellpath Report

HARRIS FEDERAL 36N-E18HZ AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#02 HARRIS FEDERAL 36N-E18HZ (712' FSL & 1803' FEL, SEC.19)**
Area	**COLORADO**	Well	**HARRIS FEDERAL 36N-E18HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**HARRIS FEDERAL 36N-E18HZ AWB**
Facility	**SEC.19-T3N-R66W**		

WELLPATH DATA (189 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7445.00	83.400	359.040	7122.09	825.91	825.07	-509.56	40°12'25.678"N	104°49'08.211"W	10.47	
7469.00	86.050	358.950	7124.29	849.80	848.96	-509.98	40°12'25.914"N	104°49'08.216"W	11.05	
7514.00†	88.452	358.773	7126.45	894.74	893.90	-510.87	40°12'26.358"N	104°49'08.227"W	5.35	7" CASING POINT
7543.00	90.000	358.660	7126.84	923.73	922.89	-511.52	40°12'26.645"N	104°49'08.236"W	5.35	
7637.00	90.490	358.670	7126.44	1017.70	1016.86	-513.71	40°12'27.574"N	104°49'08.264"W	0.52	
7732.00	90.670	359.390	7125.48	1112.69	1111.84	-515.32	40°12'28.512"N	104°49'08.285"W	0.78	
7826.00	90.460	359.300	7124.55	1206.68	1205.83	-516.40	40°12'29.441"N	104°49'08.299"W	0.24	
7920.00	90.300	0.130	7123.93	1300.68	1299.83	-516.86	40°12'30.370"N	104°49'08.305"W	0.90	
8015.00	89.220	0.470	7124.33	1395.67	1394.82	-516.37	40°12'31.309"N	104°49'08.298"W	1.19	
8109.00	89.840	1.020	7125.10	1489.66	1488.81	-515.14	40°12'32.237"N	104°49'08.283"W	0.88	
8203.00	89.380	0.900	7125.74	1583.64	1582.80	-513.57	40°12'33.166"N	104°49'08.262"W	0.51	
8297.00	89.220	359.890	7126.89	1677.63	1676.79	-512.92	40°12'34.095"N	104°49'08.254"W	1.09	
8391.00	89.560	0.090	7127.89	1771.62	1770.78	-512.94	40°12'35.024"N	104°49'08.254"W	0.42	
8485.00	89.840	359.820	7128.38	1865.62	1864.78	-513.01	40°12'35.953"N	104°49'08.255"W	0.41	
8580.00	90.370	359.710	7128.21	1960.62	1959.78	-513.40	40°12'36.891"N	104°49'08.260"W	0.57	
8674.00	89.500	359.960	7128.31	2054.62	2053.78	-513.67	40°12'37.820"N	104°49'08.264"W	0.96	
8769.00	90.060	359.610	7128.68	2149.62	2148.77	-514.03	40°12'38.759"N	104°49'08.268"W	0.70	
8863.00	89.470	359.610	7129.06	2243.61	2242.77	-514.67	40°12'39.688"N	104°49'08.277"W	0.63	
8958.00	89.930	359.840	7129.56	2338.61	2337.77	-515.12	40°12'40.627"N	104°49'08.283"W	0.54	
9052.00	89.260	359.450	7130.22	2432.61	2431.76	-515.71	40°12'41.556"N	104°49'08.290"W	0.82	
9146.00	89.620	359.320	7131.14	2526.60	2525.75	-516.71	40°12'42.484"N	104°49'08.303"W	0.41	
9241.00	89.810	359.630	7131.62	2621.60	2620.75	-517.58	40°12'43.423"N	104°49'08.314"W	0.38	
9335.00	90.330	359.740	7131.50	2715.59	2714.75	-518.10	40°12'44.352"N	104°49'08.321"W	0.57	
9429.00	89.560	0.060	7131.59	2809.59	2808.74	-518.27	40°12'45.281"N	104°49'08.323"W	0.89	
9523.00	90.150	359.890	7131.83	2903.59	2902.74	-518.31	40°12'46.210"N	104°49'08.324"W	0.65	
9618.00	89.650	359.970	7131.99	2998.59	2997.74	-518.42	40°12'47.149"N	104°49'08.325"W	0.53	
9713.00	90.240	359.980	7132.09	3093.59	3092.74	-518.46	40°12'48.087"N	104°49'08.326"W	0.62	
9807.00	90.090	359.840	7131.81	3187.59	3186.74	-518.61	40°12'49.016"N	104°49'08.328"W	0.22	
9901.00	89.930	0.200	7131.80	3281.59	3280.74	-518.58	40°12'49.945"N	104°49'08.327"W	0.42	
9995.00	90.460	0.110	7131.48	3375.59	3374.74	-518.32	40°12'50.874"N	104°49'08.324"W	0.57	
10090.00	90.950	0.330	7130.31	3470.58	3469.73	-517.96	40°12'51.813"N	104°49'08.320"W	0.57	
10184.00	90.400	359.100	7129.20	3564.57	3563.72	-518.43	40°12'52.742"N	104°49'08.326"W	1.43	
10279.00	90.030	358.930	7128.85	3659.56	3658.71	-520.06	40°12'53.680"N	104°49'08.347"W	0.43	
10373.00	90.670	358.740	7128.27	3753.54	3752.69	-521.97	40°12'54.609"N	104°49'08.371"W	0.71	
10467.00	90.180	359.230	7127.57	3847.52	3846.67	-523.64	40°12'55.538"N	104°49'08.393"W	0.74	
10562.00	89.780	0.650	7127.61	3942.52	3941.67	-523.74	40°12'56.476"N	104°49'08.394"W	1.55	
10656.00	90.340	1.900	7127.51	4036.49	4035.64	-521.64	40°12'57.405"N	104°49'08.367"W	1.46	
10751.00	89.690	3.840	7127.48	4131.36	4130.52	-516.89	40°12'58.343"N	104°49'08.306"W	2.15	
10845.00	90.240	3.860	7127.54	4225.14	4224.30	-510.58	40°12'59.269"N	104°49'08.225"W	0.59	
10939.00	89.930	4.010	7127.40	4318.90	4318.08	-504.13	40°13'00.196"N	104°49'08.141"W	0.37	
11033.00	89.620	3.840	7127.77	4412.67	4411.86	-497.69	40°13'01.123"N	104°49'08.059"W	0.38	
11127.00	91.380	5.040	7126.95	4506.37	4505.57	-490.42	40°13'02.049"N	104°49'07.965"W	2.27	
11222.00	91.100	4.840	7124.89	4600.98	4600.19	-482.24	40°13'02.984"N	104°49'07.859"W	0.36	
11316.00	91.040	4.760	7123.14	4694.62	4693.85	-474.37	40°13'03.909"N	104°49'07.758"W	0.11	
11410.00	90.670	4.740	7121.74	4788.28	4787.51	-466.59	40°13'04.835"N	104°49'07.658"W	0.39	

Actual Wellpath Report

HARRIS FEDERAL 36N-E18HZ AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#02 HARRIS FEDERAL 36N-E18HZ (712' FSL & 1803' FEL, SEC.19)**
Area	**COLORADO**	Well	**HARRIS FEDERAL 36N-E18HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**HARRIS FEDERAL 36N-E18HZ AWB**
Facility	**SEC.19-T3N-R66W**		

WELLPATH DATA (189 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11505.00	91.100	5.030	7120.27	4882.91	4882.16	-458.50	40°13'05.770"N	104°49'07.553"W	0.55	
11563.00	91.380	4.970	7119.01	4940.66	4939.92	-453.45	40°13'06.341"N	104°49'07.488"W	0.49	
11657.00	90.550	4.000	7117.43	5034.35	5033.62	-446.10	40°13'07.267"N	104°49'07.394"W	1.36	
11751.00	90.920	3.690	7116.23	5128.12	5127.40	-439.79	40°13'08.194"N	104°49'07.312"W	0.51	
11845.00	90.370	4.150	7115.17	5221.88	5221.17	-433.37	40°13'09.120"N	104°49'07.230"W	0.76	
11939.00	89.660	3.840	7115.14	5315.64	5314.94	-426.82	40°13'10.047"N	104°49'07.145"W	0.82	
12034.00	90.330	3.950	7115.15	5410.41	5409.72	-420.37	40°13'10.984"N	104°49'07.062"W	0.71	
12128.00	89.350	4.600	7115.41	5504.13	5503.46	-413.36	40°13'11.910"N	104°49'06.972"W	1.25	
12223.00	89.530	4.030	7116.34	5598.85	5598.19	-406.21	40°13'12.846"N	104°49'06.880"W	0.63	
12317.00	90.120	2.590	7116.63	5692.68	5692.03	-400.79	40°13'13.773"N	104°49'06.810"W	1.66	
12364.00	90.430	2.240	7116.40	5739.63	5738.98	-398.80	40°13'14.237"N	104°49'06.784"W	0.99	
12411.00	90.920	1.740	7115.85	5786.60	5785.95	-397.17	40°13'14.702"N	104°49'06.763"W	1.49	
12459.00	91.100	1.000	7115.00	5834.57	5833.93	-396.03	40°13'15.176"N	104°49'06.748"W	1.59	
12506.00	90.550	0.290	7114.33	5881.57	5880.92	-395.50	40°13'15.640"N	104°49'06.741"W	1.91	
12553.00	89.780	359.250	7114.19	5928.56	5927.92	-395.69	40°13'16.104"N	104°49'06.744"W	2.75	
12600.00	89.960	359.380	7114.30	5975.56	5974.92	-396.25	40°13'16.569"N	104°49'06.751"W	0.47	
12694.00	90.270	358.030	7114.11	6069.54	6068.89	-398.37	40°13'17.497"N	104°49'06.779"W	1.47	
12788.00	90.550	358.120	7113.44	6163.49	6162.84	-401.53	40°13'18.426"N	104°49'06.819"W	0.31	
12882.00	90.400	356.820	7112.66	6257.40	6256.74	-405.68	40°13'19.354"N	104°49'06.873"W	1.39	
12976.00	89.630	357.350	7112.63	6351.28	6350.62	-410.46	40°13'20.281"N	104°49'06.934"W	0.99	
13071.00	90.770	357.060	7112.30	6446.18	6445.50	-415.09	40°13'21.219"N	104°49'06.994"W	1.24	
13165.00	89.470	357.090	7112.10	6540.06	6539.38	-419.89	40°13'22.147"N	104°49'07.056"W	1.38	
13259.00	89.750	357.180	7112.74	6633.95	6633.26	-424.59	40°13'23.075"N	104°49'07.117"W	0.31	
13354.00	90.030	356.990	7112.93	6728.83	6728.13	-429.42	40°13'24.012"N	104°49'07.179"W	0.36	
13448.00	89.560	357.400	7113.26	6822.72	6822.02	-434.02	40°13'24.940"N	104°49'07.238"W	0.66	
13543.00	90.000	357.550	7113.63	6917.64	6916.93	-438.20	40°13'25.878"N	104°49'07.292"W	0.49	
13637.00	90.460	357.390	7113.25	7011.55	7010.83	-442.35	40°13'26.806"N	104°49'07.346"W	0.52	
13732.00	89.660	358.340	7113.15	7106.49	7105.77	-445.89	40°13'27.744"N	104°49'07.391"W	1.31	
13826.00	90.180	358.670	7113.28	7200.46	7199.73	-448.34	40°13'28.672"N	104°49'07.423"W	0.66	
13920.00	90.550	358.290	7112.68	7294.43	7293.70	-450.84	40°13'29.601"N	104°49'07.455"W	0.56	
14014.00	89.870	358.420	7112.34	7388.39	7387.66	-453.53	40°13'30.529"N	104°49'07.490"W	0.74	
14109.00	89.290	357.790	7113.04	7483.34	7482.60	-456.68	40°13'31.468"N	104°49'07.531"W	0.90	
14203.00	89.960	357.520	7113.65	7577.27	7576.52	-460.52	40°13'32.396"N	104°49'07.580"W	0.77	
14298.00	89.190	357.230	7114.36	7672.17	7671.42	-464.87	40°13'33.334"N	104°49'07.636"W	0.87	
14392.00	89.560	357.300	7115.38	7766.07	7765.31	-469.36	40°13'34.261"N	104°49'07.694"W	0.40	
14486.00	90.490	357.150	7115.34	7859.96	7859.19	-473.91	40°13'35.189"N	104°49'07.753"W	1.00	
14580.00	89.260	357.230	7115.54	7953.86	7953.08	-478.52	40°13'36.117"N	104°49'07.812"W	1.31	
14675.00	89.440	357.290	7116.62	8048.75	8047.96	-483.06	40°13'37.055"N	104°49'07.871"W	0.20	
14769.00	90.240	357.880	7116.88	8142.67	8141.88	-487.02	40°13'37.983"N	104°49'07.922"W	1.06	
14864.00	90.580	357.730	7116.21	8237.60	8236.81	-490.66	40°13'38.921"N	104°49'07.969"W	0.39	
14958.00	89.160	357.720	7116.42	8331.53	8330.73	-494.39	40°13'39.849"N	104°49'08.017"W	1.51	
15052.00	89.810	357.840	7117.26	8425.46	8424.66	-498.03	40°13'40.777"N	104°49'08.064"W	0.70	
15147.00	88.920	357.810	7118.32	8520.39	8519.58	-501.63	40°13'41.715"N	104°49'08.110"W	0.94	
15241.00	89.530	357.570	7119.59	8614.31	8613.49	-505.42	40°13'42.643"N	104°49'08.159"W	0.70	
15336.00	89.930	358.160	7120.04	8709.25	8708.43	-508.96	40°13'43.581"N	104°49'08.205"W	0.75	

Actual Wellpath Report

HARRIS FEDERAL 36N-E18HZ AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#02 HARRIS FEDERAL 36N-E18HZ (712' FSL & 1803' FEL, SEC.19)**
Area	**COLORADO**	Well	**HARRIS FEDERAL 36N-E18HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**HARRIS FEDERAL 36N-E18HZ AWB**
Facility	**SEC.19-T3N-R66W**		

WELLPATH DATA (189 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
15430.00	90.060	358.470	7120.04	8803.22	8802.39	-511.73	40°13'44.510"N	104°49'08.241"W	0.36	
15524.00	89.900	358.760	7120.08	8897.19	8896.36	-514.00	40°13'45.438"N	104°49'08.270"W	0.35	
15618.00	90.490	359.010	7119.76	8991.18	8990.34	-515.83	40°13'46.367"N	104°49'08.294"W	0.68	
15713.00	91.080	358.710	7118.45	9086.15	9085.31	-517.72	40°13'47.306"N	104°49'08.318"W	0.70	
15807.00	90.670	359.310	7117.02	9180.13	9179.29	-519.34	40°13'48.234"N	104°49'08.339"W	0.77	
15901.00	91.100	359.320	7115.57	9274.11	9273.27	-520.46	40°13'49.163"N	104°49'08.353"W	0.46	
15995.00	91.470	359.340	7113.46	9368.08	9367.24	-521.56	40°13'50.092"N	104°49'08.368"W	0.39	
16013.00	91.590	359.260	7112.98	9386.08	9385.23	-521.78	40°13'50.269"N	104°49'08.370"W	0.80	LAST BHI MWD+IFR SURVEY
16067.00	91.590	359.260	7111.48	9440.05	9439.20	-522.48	40°13'50.803"N	104°49'08.379"W	0.00	PROJECTION TO BIT

HOLE & CASING SECTIONS - Ref Wellbore: HARRIS FEDERAL 36N-E18HZ AWB Ref Wellpath: HARRIS FEDERAL 36N-E18HZ 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	709.00	684.00	25.00	708.97	0.00	0.00	4.68	1.57
9.625in Casing Surface	25.00	620.00	595.00	25.00	619.98	0.00	0.00	3.76	0.97
8.75in Open Hole	709.00	7526.00	6817.00	708.97	7126.71	4.68	1.57	905.89	-511.13
7in Casing Intermediate	25.00	7514.00	7489.00	25.00	7126.45	0.00	0.00	893.90	-510.87
6.125in Open Hole	7526.00	16067.00	8541.00	7126.71	7111.48	905.89	-511.13	9439.20	-522.48

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#02 HARRIS FEDERAL 36N-E18HZ (712' FSL & 1803' FEL, SEC.19)**
Area	**COLORADO**	Well	**HARRIS FEDERAL 36N-E18HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**HARRIS FEDERAL 36N-E18HZ AWB**
Facility	**SEC.19-T3N-R66W**		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.18-T3N-R66W HARDLINES (460' SETBACKS)		4857.00	-29.85	2.79	3190736.85	1318180.40	40°12'17.230"N	104°49'01.607"W	polygon
SEC.18-T3N-R66W SECTION LINES		4857.00	-29.85	2.79	3190736.85	1318180.40	40°12'17.230"N	104°49'01.607"W	polygon
SEC.19-T3N-R66W HARDLINES (460' SETBACKS)		4857.00	-29.85	2.79	3190736.85	1318180.40	40°12'17.230"N	104°49'01.607"W	polygon
SEC.19-T3N-R66W SECTION LINES		4857.00	-29.85	2.79	3190736.85	1318180.40	40°12'17.230"N	104°49'01.607"W	polygon
HARRIS FEDERAL 36N-E18HZ (400' FNL & 2305' FEL, SEC.19) REV-1		7137.00	9439.38	-524.91	3190136.27	1327644.86	**40°13'50.804"N**	**104°49'08.411"W**	point
HARRIS FEDERAL 36N-E18HZ BHL REV-2 (400' FNL & 2305' FEL, SEC.19)		7137.00	9439.34	-524.93	3190136.25	1327644.82	**40°13'50.804"N**	**104°49'08.411"W**	point
HARRIS FEDERAL 36N-E18HZ LAND BOX		7137.00	0.00	0.00	3190733.83	1318210.23	40°12'17.525"N	104°49'01.643"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: HARRIS FEDERAL 36N-E18HZ AWB Ref Wellpath: HARRIS FEDERAL 36N-E18HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	562.00	NaviTrak (Standard)	BHI MWD SURVEYS 13 1/2" HOLE <95-562>	HARRIS FEDERAL 36N-E18HZ AWB
562.00	7469.00	NaviTrak (MAGCORR,IFR)	BHI MWD+IFR SURVEYS 8 3/4" HOLE <701-7469>	HARRIS FEDERAL 36N-E18HZ AWB
7469.00	16013.00	NaviTrak (MAGCORR,IFR)	BHI MWD+IFR SURVEYS 6 1/8" HOLE <7543-16013>	HARRIS FEDERAL 36N-E18HZ AWB
16013.00	16067.00	Blind Drilling (std)	Projection to bit	HARRIS FEDERAL 36N-E18HZ AWB

Actual Wellpath Report

HARRIS FEDERAL 36N-E18HZ AWP

REFERENCE WELLPATH IDENTIFICATION			
Operator	**KERR-MCGEE OIL & GAS ONSHORE LP**	Slot	**SLOT#02 HARRIS FEDERAL 36N-E18HZ (712' FSL & 1803' FEL, SEC.19)**
Area	**COLORADO**	Well	**HARRIS FEDERAL 36N-E18HZ**
Field	**WELD COUNTY (KERR MCGEE)**	Wellbore	**HARRIS FEDERAL 36N-E18HZ AWB**
Facility	**SEC.19-T3N-R66W**		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
25.00	0.000	303.640	25.00	TIE-ON
95.00	0.100	303.640	95.00	BEGIN BHI MWD SURVEYS
562.00	0.450	52.540	561.98	TIE-INTO BHI MWD SURVEYS
701.00	0.820	29.780	700.97	BEGIN BHI MWD+IFR SURVEYS
7514.00	88.452	358.773	7126.45	7" CASING POINT
16013.00	91.590	359.260	7112.98	LAST BHI MWD+IFR SURVEY
16067.00	91.590	359.260	7111.48	PROJECTION TO BIT