

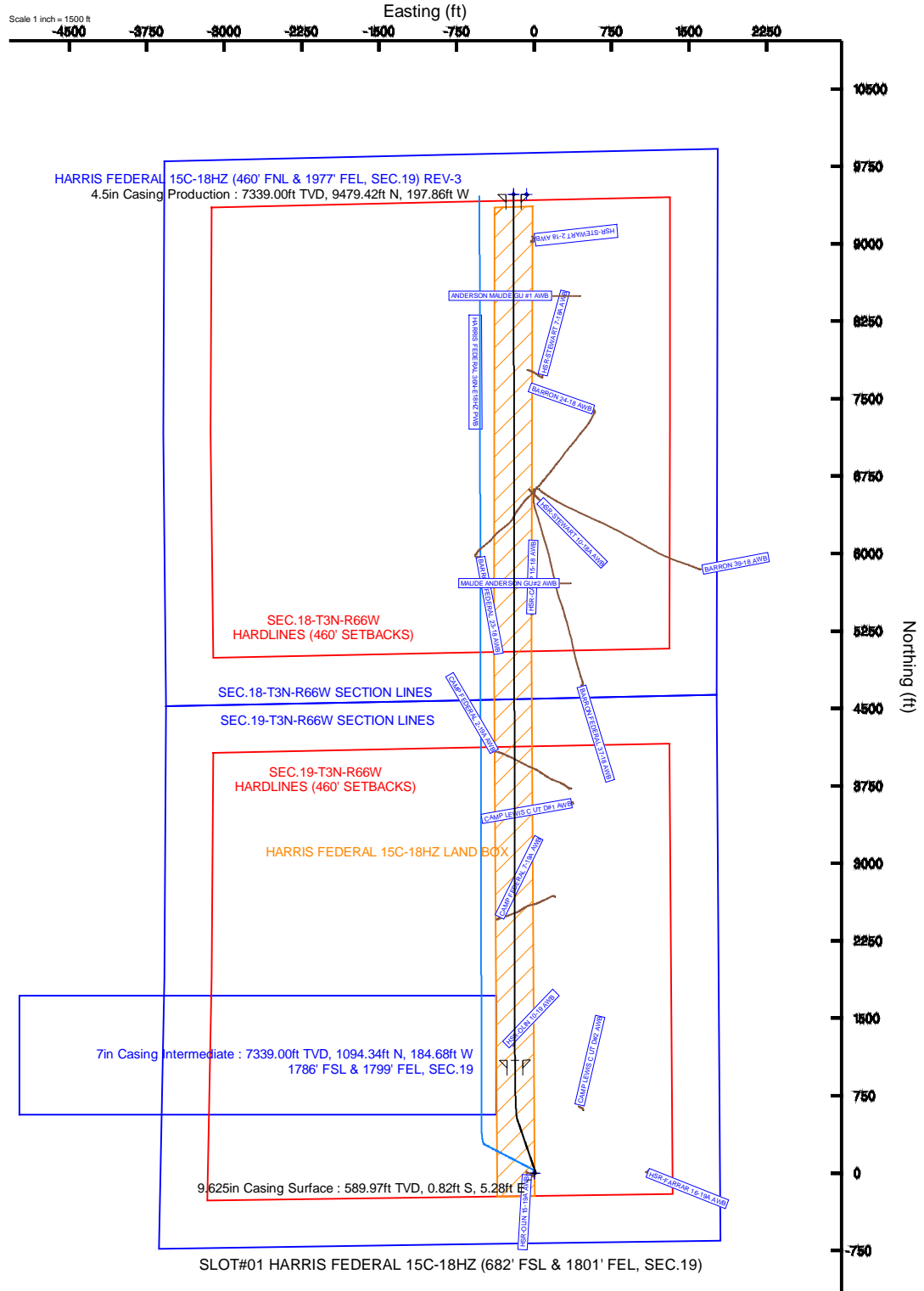


KERR-MCGEE OIL & GAS ONSHORE LP

Location: COLORADO Slot: SLOTH01 HARRIS FEDERAL 15C-18HZ (682' FSL & 1801' FEL, SEC.19)
Field: WELD COUNTY (KERR MCGEE) Well: HARRIS FEDERAL 15C-18HZ
Facility: SEC.18-T3N-R66W Wellbore: HARRIS FEDERAL 15C-18HZ PWB

Plot reference wellpath is HARRIS FEDERAL 15C-18HZ (REV-B.0) PWB

True vertical depths are referenced to XNTRM 8 (17' ASL) (RAB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US Feet
Measured depths are referenced to XNTRM 8 (17' ASL) (RAB)	North Reference: True North
XNTRM 8 (17' ASL) (RAB) to Mean Sea Level: 4640 feet	Scale: True distance
Mean Sea Level to Mud line (in Slot: SLOTH01 HARRIS FEDERAL 15C-18HZ (682' FSL & 1801' FEL, SEC.19): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: jason on 08/Aug/2013





Planned Wellpath Report

HARRIS FEDERAL 15C-18HZ (REV-B.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 HARRIS FEDERAL 15C-18HZ (682' FSL & 1801' FEL, SEC.19)
Area	COLORADO	Well	HARRIS FEDERAL 15C-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HARRIS FEDERAL 15C-18HZ PWB
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	Precain
Scale	0.999957	Report Generated	06/Aug/2013 at 15:25
Convergence at slot	n/a	Database/Source file	WellArchitectDB/HARRIS_FEDERAL_15C-18HZ_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.10	-0.08	3190736.85	1318180.40	40°12'17.230"N	104°49'01.607"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	XTREME 8 (17' KB) (RKB) to Facility Vertical Datum	4849.00ft
Horizontal Reference Pt	Slot	XTREME 8 (17' KB) (RKB) to Mean Sea Level	4849.00ft
Vertical Reference Pt	XTREME 8 (17' KB) (RKB)	XTREME 8 (17' KB) (RKB) to Mud Line at Slot (SLOT#01 HARRIS FEDERAL 15C-18HZ (682' FSL & 1801' FEL, SEC.19))	4849.00ft
MD Reference Pt	XTREME 8 (17' KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.91°



Planned Wellpath Report

HARRIS FEDERAL 15C-18HZ (REV-B.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 HARRIS FEDERAL 15C-18HZ (682' FSL & 1801' FEL, SEC.19)
Area	COLORADO	Well	HARRIS FEDERAL 15C-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HARRIS FEDERAL 15C-18HZ PWB
Facility	SEC.19-T3N-R66W		

WELLPATH DATA (177 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	90.550	0.00	0.00	0.00	0.00	40°12'17.230"N	104°49'01.607"W	0.00	
17.00	0.000	90.550	17.00	0.00	0.00	0.00	40°12'17.230"N	104°49'01.607"W	0.00	
148.00	0.750	90.550	148.00	-0.01	-0.01	0.86	40°12'17.230"N	104°49'01.596"W	0.57	
239.00	0.870	116.790	238.99	-0.33	-0.33	2.07	40°12'17.227"N	104°49'01.580"W	0.42	
299.00	0.640	89.470	298.98	-0.53	-0.53	2.81	40°12'17.225"N	104°49'01.571"W	0.70	
393.00	0.350	67.420	392.98	-0.42	-0.41	3.60	40°12'17.226"N	104°49'01.561"W	0.36	
484.00	0.570	104.450	483.98	-0.43	-0.42	4.30	40°12'17.226"N	104°49'01.552"W	0.39	
568.00	0.580	117.080	567.97	-0.72	-0.72	5.08	40°12'17.223"N	104°49'01.542"W	0.15	TIE-INTO MWD SURVEYS
668.00†	0.580	117.080	667.97	-1.19	-1.18	5.98	40°12'17.218"N	104°49'01.530"W	0.00	
706.04†	0.580	117.080	706.00	-1.36	-1.35	6.32	40°12'17.217"N	104°49'01.526"W	0.00	Fox Hills
768.00†	0.580	117.080	767.96	-1.65	-1.64	6.88	40°12'17.214"N	104°49'01.518"W	0.00	
868.00†	0.580	117.080	867.96	-2.11	-2.10	7.78	40°12'17.209"N	104°49'01.507"W	0.00	
968.00†	0.580	117.080	967.95	-2.57	-2.56	8.68	40°12'17.205"N	104°49'01.495"W	0.00	
1068.00†	0.580	117.080	1067.95	-3.04	-3.02	9.59	40°12'17.200"N	104°49'01.483"W	0.00	
1168.00†	0.580	117.080	1167.94	-3.50	-3.48	10.49	40°12'17.196"N	104°49'01.472"W	0.00	
1268.00†	0.580	117.080	1267.94	-3.96	-3.94	11.39	40°12'17.191"N	104°49'01.460"W	0.00	
1368.00†	0.580	117.080	1367.93	-4.42	-4.40	12.29	40°12'17.186"N	104°49'01.449"W	0.00	
1468.00†	0.580	117.080	1467.93	-4.88	-4.86	13.19	40°12'17.182"N	104°49'01.437"W	0.00	
1568.00†	0.580	117.080	1567.92	-5.35	-5.32	14.09	40°12'17.177"N	104°49'01.425"W	0.00	
1668.00†	0.580	117.080	1667.92	-5.81	-5.79	14.99	40°12'17.173"N	104°49'01.414"W	0.00	
1768.00†	0.580	117.080	1767.91	-6.27	-6.25	15.90	40°12'17.168"N	104°49'01.402"W	0.00	
1868.00†	0.580	117.080	1867.91	-6.73	-6.71	16.80	40°12'17.164"N	104°49'01.391"W	0.00	
1968.00†	0.580	117.080	1967.90	-7.20	-7.17	17.70	40°12'17.159"N	104°49'01.379"W	0.00	
2050.10	0.580	117.080	2050.00	-7.58	-7.55	18.44	40°12'17.155"N	104°49'01.369"W	0.00	BEGIN NUDGE
2068.00†	0.388	79.958	2067.90	-7.61	-7.58	18.58	40°12'17.155"N	104°49'01.368"W	2.00	
2168.00†	1.956	349.084	2167.88	-5.87	-5.84	18.59	40°12'17.172"N	104°49'01.367"W	2.00	
2268.00†	3.937	343.428	2267.74	-0.90	-0.87	17.29	40°12'17.221"N	104°49'01.384"W	2.00	
2368.00†	5.931	341.563	2367.36	7.29	7.32	14.67	40°12'17.302"N	104°49'01.418"W	2.00	
2421.54	7.000	341.000	2420.56	13.01	13.03	12.73	40°12'17.359"N	104°49'01.443"W	2.00	END NUDGE
2468.00†	7.000	341.000	2466.68	18.36	18.38	10.89	40°12'17.412"N	104°49'01.467"W	0.00	
2568.00†	7.000	341.000	2565.93	29.89	29.90	6.92	40°12'17.526"N	104°49'01.518"W	0.00	
2668.00†	7.000	341.000	2665.18	41.42	41.43	2.96	40°12'17.639"N	104°49'01.569"W	0.00	
2768.00†	7.000	341.000	2764.44	52.95	52.95	-1.01	40°12'17.753"N	104°49'01.620"W	0.00	
2868.00†	7.000	341.000	2863.69	64.48	64.47	-4.98	40°12'17.867"N	104°49'01.671"W	0.00	
2968.00†	7.000	341.000	2962.95	76.01	76.00	-8.95	40°12'17.981"N	104°49'01.722"W	0.00	
3068.00†	7.000	341.000	3062.20	87.54	87.52	-12.91	40°12'18.095"N	104°49'01.773"W	0.00	
3168.00†	7.000	341.000	3161.46	99.07	99.04	-16.88	40°12'18.209"N	104°49'01.825"W	0.00	
3268.00†	7.000	341.000	3260.71	110.60	110.56	-20.85	40°12'18.323"N	104°49'01.876"W	0.00	
3368.00†	7.000	341.000	3359.97	122.13	122.09	-24.82	40°12'18.436"N	104°49'01.927"W	0.00	
3377.10†	7.000	341.000	3369.00	123.18	123.14	-25.18	40°12'18.447"N	104°49'01.932"W	0.00	Parkman
3468.00†	7.000	341.000	3459.22	133.66	133.61	-28.79	40°12'18.550"N	104°49'01.978"W	0.00	
3568.00†	7.000	341.000	3558.48	145.18	145.13	-32.75	40°12'18.664"N	104°49'02.029"W	0.00	
3668.00†	7.000	341.000	3657.73	156.71	156.66	-36.72	40°12'18.778"N	104°49'02.080"W	0.00	
3768.00†	7.000	341.000	3756.99	168.24	168.18	-40.69	40°12'18.892"N	104°49'02.131"W	0.00	
3868.00†	7.000	341.000	3856.24	179.77	179.70	-44.66	40°12'19.006"N	104°49'02.183"W	0.00	



Planned Wellpath Report

HARRIS FEDERAL 15C-18HZ (REV-B.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 HARRIS FEDERAL 15C-18HZ (682' FSL & 1801' FEL, SEC.19)
Area	COLORADO	Well	HARRIS FEDERAL 15C-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HARRIS FEDERAL 15C-18HZ PWB
Facility	SEC.19-T3N-R66W		

WELLPATH DATA (177 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3968.00†	7.000	341.000	3955.49	191.30	191.23	-48.62	40°12'19.120"N	104°49'02.234"W	0.00	
4068.00†	7.000	341.000	4054.75	202.83	202.75	-52.59	40°12'19.234"N	104°49'02.285"W	0.00	
4168.00†	7.000	341.000	4154.00	214.36	214.27	-56.56	40°12'19.347"N	104°49'02.336"W	0.00	
4268.00†	7.000	341.000	4253.26	225.89	225.79	-60.53	40°12'19.461"N	104°49'02.387"W	0.00	
4287.89†	7.000	341.000	4273.00	228.18	228.09	-61.32	40°12'19.484"N	104°49'02.397"W	0.00	Sussex
4368.00†	7.000	341.000	4352.51	237.42	237.32	-64.49	40°12'19.575"N	104°49'02.438"W	0.00	
4468.00†	7.000	341.000	4451.77	248.95	248.84	-68.46	40°12'19.689"N	104°49'02.489"W	0.00	
4568.00†	7.000	341.000	4551.02	260.48	260.36	-72.43	40°12'19.803"N	104°49'02.541"W	0.00	
4668.00†	7.000	341.000	4650.28	272.01	271.89	-76.40	40°12'19.917"N	104°49'02.592"W	0.00	
4768.00†	7.000	341.000	4749.53	283.54	283.41	-80.37	40°12'20.031"N	104°49'02.643"W	0.00	
4868.00†	7.000	341.000	4848.79	295.06	294.93	-84.33	40°12'20.145"N	104°49'02.694"W	0.00	
4968.00†	7.000	341.000	4948.04	306.59	306.46	-88.30	40°12'20.258"N	104°49'02.745"W	0.00	
5068.00†	7.000	341.000	5047.30	318.12	317.98	-92.27	40°12'20.372"N	104°49'02.796"W	0.00	
5168.00†	7.000	341.000	5146.55	329.65	329.50	-96.24	40°12'20.486"N	104°49'02.847"W	0.00	
5268.00†	7.000	341.000	5245.80	341.18	341.02	-100.20	40°12'20.600"N	104°49'02.898"W	0.00	
5368.00†	7.000	341.000	5345.06	352.71	352.55	-104.17	40°12'20.714"N	104°49'02.950"W	0.00	
5468.00†	7.000	341.000	5444.31	364.24	364.07	-108.14	40°12'20.828"N	104°49'03.001"W	0.00	
5568.00†	7.000	341.000	5543.57	375.77	375.59	-112.11	40°12'20.942"N	104°49'03.052"W	0.00	
5668.00†	7.000	341.000	5642.82	387.30	387.12	-116.07	40°12'21.055"N	104°49'03.103"W	0.00	
5768.00†	7.000	341.000	5742.08	398.83	398.64	-120.04	40°12'21.169"N	104°49'03.154"W	0.00	
5868.00†	7.000	341.000	5841.33	410.36	410.16	-124.01	40°12'21.283"N	104°49'03.205"W	0.00	
5968.00†	7.000	341.000	5940.59	421.89	421.68	-127.98	40°12'21.397"N	104°49'03.256"W	0.00	
6068.00†	7.000	341.000	6039.84	433.41	433.21	-131.95	40°12'21.511"N	104°49'03.308"W	0.00	
6168.00†	7.000	341.000	6139.10	444.94	444.73	-135.91	40°12'21.625"N	104°49'03.359"W	0.00	
6268.00†	7.000	341.000	6238.35	456.47	456.25	-139.88	40°12'21.739"N	104°49'03.410"W	0.00	
6368.00†	7.000	341.000	6337.61	468.00	467.78	-143.85	40°12'21.853"N	104°49'03.461"W	0.00	
6468.00†	7.000	341.000	6436.86	479.53	479.30	-147.82	40°12'21.966"N	104°49'03.512"W	0.00	
6568.00†	7.000	341.000	6536.11	491.06	490.82	-151.78	40°12'22.080"N	104°49'03.563"W	0.00	
6668.00†	7.000	341.000	6635.37	502.59	502.35	-155.75	40°12'22.194"N	104°49'03.614"W	0.00	
6768.00†	7.000	341.000	6734.62	514.12	513.87	-159.72	40°12'22.308"N	104°49'03.666"W	0.00	
6866.62	7.000	341.000	6832.50	525.49	525.23	-163.63	40°12'22.420"N	104°49'03.716"W	0.00	KOP, BUILD @ 10°/100'
6868.00†	7.131	341.364	6833.88	525.65	525.39	-163.69	40°12'22.422"N	104°49'03.717"W	10.00	
6968.00†	16.909	352.388	6931.58	546.00	545.74	-167.61	40°12'22.623"N	104°49'03.767"W	10.00	
7043.31†	24.390	354.875	7002.00	572.39	572.12	-170.45	40°12'22.884"N	104°49'03.804"W	10.00	Sharon Springs
7068.00†	26.849	355.401	7024.26	583.03	582.76	-171.35	40°12'22.989"N	104°49'03.815"W	10.00	
7111.16†	31.150	356.135	7062.00	603.89	603.62	-172.89	40°12'23.195"N	104°49'03.835"W	10.00	Niobrara A
7168.00†	36.820	356.863	7109.11	635.59	635.32	-174.81	40°12'23.508"N	104°49'03.860"W	10.00	
7176.65†	37.683	356.957	7116.00	640.82	640.55	-175.09	40°12'23.560"N	104°49'03.864"W	10.00	Niobrara B Chalk
7265.73†	46.575	357.751	7182.00	700.46	700.18	-177.81	40°12'24.149"N	104°49'03.899"W	10.00	Niobrara C
7268.00†	46.802	357.768	7183.56	702.11	701.83	-177.88	40°12'24.165"N	104°49'03.900"W	10.00	
7368.00†	56.789	358.417	7245.33	780.55	780.27	-180.46	40°12'24.941"N	104°49'03.933"W	10.00	
7468.00†	66.778	358.931	7292.55	868.54	868.25	-182.48	40°12'25.810"N	104°49'03.959"W	10.00	
7537.44†	73.716	359.244	7316.00	933.84	933.56	-183.52	40°12'26.455"N	104°49'03.972"W	10.00	Fort Hays
7568.00†	76.770	359.373	7323.78	963.39	963.10	-183.87	40°12'26.747"N	104°49'03.977"W	10.00	
7641.70†	84.134	359.675	7336.00	1036.02	1035.73	-184.47	40°12'27.465"N	104°49'03.985"W	10.00	Codell



Planned Wellpath Report

HARRIS FEDERAL 15C-18HZ (REV-B.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 HARRIS FEDERAL 15C-18HZ (682' FSL & 1801' FEL, SEC.19)
Area	COLORADO	Well	HARRIS FEDERAL 15C-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HARRIS FEDERAL 15C-18HZ PWB
Facility	SEC.19-T3N-R66W		

WELLPATH DATA (177 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7668.00†	86.762	359.780	7338.09	1062.23	1061.94	-184.60	40°12'27.724"N	104°49'03.986"W	10.00	
7700.41	90.000	359.910	7339.00	1094.63	1094.34	-184.68	40°12'28.044"N	104°49'03.987"W	10.00	LANDING POINT
7768.00†	90.000	359.910	7339.00	1162.21	1161.93	-184.79	40°12'28.712"N	104°49'03.989"W	0.00	
7868.00†	90.000	359.910	7339.00	1262.21	1261.93	-184.95	40°12'29.700"N	104°49'03.991"W	0.00	
7968.00†	90.000	359.910	7339.00	1362.21	1361.93	-185.11	40°12'30.688"N	104°49'03.993"W	0.00	
8068.00†	90.000	359.910	7339.00	1462.21	1461.93	-185.27	40°12'31.677"N	104°49'03.995"W	0.00	
8168.00†	90.000	359.910	7339.00	1562.21	1561.93	-185.42	40°12'32.665"N	104°49'03.997"W	0.00	
8268.00†	90.000	359.910	7339.00	1662.21	1661.93	-185.58	40°12'33.653"N	104°49'03.999"W	0.00	
8368.00†	90.000	359.910	7339.00	1762.21	1761.93	-185.74	40°12'34.641"N	104°49'04.001"W	0.00	
8468.00†	90.000	359.910	7339.00	1862.21	1861.92	-185.90	40°12'35.629"N	104°49'04.003"W	0.00	
8568.00†	90.000	359.910	7339.00	1962.21	1961.92	-186.05	40°12'36.618"N	104°49'04.005"W	0.00	
8668.00†	90.000	359.910	7339.00	2062.21	2061.92	-186.21	40°12'37.606"N	104°49'04.007"W	0.00	
8768.00†	90.000	359.910	7339.00	2162.21	2161.92	-186.37	40°12'38.594"N	104°49'04.009"W	0.00	
8868.00†	90.000	359.910	7339.00	2262.21	2261.92	-186.53	40°12'39.582"N	104°49'04.011"W	0.00	
8968.00†	90.000	359.910	7339.00	2362.21	2361.92	-186.69	40°12'40.570"N	104°49'04.013"W	0.00	
9068.00†	90.000	359.910	7339.00	2462.21	2461.92	-186.84	40°12'41.559"N	104°49'04.015"W	0.00	
9168.00†	90.000	359.910	7339.00	2562.21	2561.92	-187.00	40°12'42.547"N	104°49'04.017"W	0.00	
9268.00†	90.000	359.910	7339.00	2662.21	2661.92	-187.16	40°12'43.535"N	104°49'04.019"W	0.00	
9368.00†	90.000	359.910	7339.00	2762.21	2761.92	-187.32	40°12'44.523"N	104°49'04.021"W	0.00	
9468.00†	90.000	359.910	7339.00	2862.21	2861.92	-187.47	40°12'45.511"N	104°49'04.023"W	0.00	
9568.00†	90.000	359.910	7339.00	2962.21	2961.92	-187.63	40°12'46.500"N	104°49'04.026"W	0.00	
9668.00†	90.000	359.910	7339.00	3062.21	3061.92	-187.79	40°12'47.488"N	104°49'04.028"W	0.00	
9768.00†	90.000	359.910	7339.00	3162.21	3161.92	-187.95	40°12'48.476"N	104°49'04.030"W	0.00	
9868.00†	90.000	359.910	7339.00	3262.21	3261.92	-188.10	40°12'49.464"N	104°49'04.032"W	0.00	
9968.00†	90.000	359.910	7339.00	3362.21	3361.92	-188.26	40°12'50.452"N	104°49'04.034"W	0.00	
10068.00†	90.000	359.910	7339.00	3462.21	3461.92	-188.42	40°12'51.441"N	104°49'04.036"W	0.00	
10168.00†	90.000	359.910	7339.00	3562.21	3561.92	-188.58	40°12'52.429"N	104°49'04.038"W	0.00	
10268.00†	90.000	359.910	7339.00	3662.21	3661.92	-188.73	40°12'53.417"N	104°49'04.040"W	0.00	
10368.00†	90.000	359.910	7339.00	3762.21	3761.92	-188.89	40°12'54.405"N	104°49'04.042"W	0.00	
10468.00†	90.000	359.910	7339.00	3862.21	3861.92	-189.05	40°12'55.393"N	104°49'04.044"W	0.00	
10568.00†	90.000	359.910	7339.00	3962.21	3961.92	-189.21	40°12'56.382"N	104°49'04.046"W	0.00	
10668.00†	90.000	359.910	7339.00	4062.21	4061.92	-189.36	40°12'57.370"N	104°49'04.048"W	0.00	
10768.00†	90.000	359.910	7339.00	4162.21	4161.92	-189.52	40°12'58.358"N	104°49'04.050"W	0.00	
10868.00†	90.000	359.910	7339.00	4262.21	4261.92	-189.68	40°12'59.346"N	104°49'04.052"W	0.00	
10968.00†	90.000	359.910	7339.00	4362.21	4361.92	-189.84	40°13'00.334"N	104°49'04.054"W	0.00	
11068.00†	90.000	359.910	7339.00	4462.21	4461.92	-189.99	40°13'01.323"N	104°49'04.056"W	0.00	
11168.00†	90.000	359.910	7339.00	4562.21	4561.92	-190.15	40°13'02.311"N	104°49'04.058"W	0.00	
11268.00†	90.000	359.910	7339.00	4662.21	4661.92	-190.31	40°13'03.299"N	104°49'04.060"W	0.00	
11368.00†	90.000	359.910	7339.00	4762.21	4761.92	-190.46	40°13'04.287"N	104°49'04.062"W	0.00	
11468.00†	90.000	359.910	7339.00	4862.21	4861.92	-190.62	40°13'05.275"N	104°49'04.064"W	0.00	
11568.00†	90.000	359.910	7339.00	4962.21	4961.92	-190.78	40°13'06.264"N	104°49'04.066"W	0.00	
11668.00†	90.000	359.910	7339.00	5062.21	5061.92	-190.94	40°13'07.252"N	104°49'04.068"W	0.00	
11768.00†	90.000	359.910	7339.00	5162.21	5161.92	-191.09	40°13'08.240"N	104°49'04.070"W	0.00	
11868.00†	90.000	359.910	7339.00	5262.21	5261.92	-191.25	40°13'09.228"N	104°49'04.072"W	0.00	
11968.00†	90.000	359.910	7339.00	5362.21	5361.92	-191.41	40°13'10.216"N	104°49'04.074"W	0.00	



Planned Wellpath Report

HARRIS FEDERAL 15C-18HZ (REV-B.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 HARRIS FEDERAL 15C-18HZ (682' FSL & 1801' FEL, SEC.19)
Area	COLORADO	Well	HARRIS FEDERAL 15C-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HARRIS FEDERAL 15C-18HZ PWB
Facility	SEC.19-T3N-R66W		

WELLPATH DATA (177 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12068.00†	90.000	359.910	7339.00	5462.21	5461.92	-191.56	40°13'11.204"N	104°49'04.076"W	0.00	
12168.00†	90.000	359.910	7339.00	5562.21	5561.92	-191.72	40°13'12.193"N	104°49'04.079"W	0.00	
12268.00†	90.000	359.910	7339.00	5662.21	5661.92	-191.88	40°13'13.181"N	104°49'04.081"W	0.00	
12368.00†	90.000	359.910	7339.00	5762.21	5761.92	-192.04	40°13'14.169"N	104°49'04.083"W	0.00	
12468.00†	90.000	359.910	7339.00	5862.21	5861.92	-192.19	40°13'15.157"N	104°49'04.085"W	0.00	
12568.00†	90.000	359.910	7339.00	5962.21	5961.92	-192.35	40°13'16.145"N	104°49'04.087"W	0.00	
12668.00†	90.000	359.910	7339.00	6062.21	6061.92	-192.51	40°13'17.134"N	104°49'04.089"W	0.00	
12768.00†	90.000	359.910	7339.00	6162.21	6161.92	-192.66	40°13'18.122"N	104°49'04.091"W	0.00	
12868.00†	90.000	359.910	7339.00	6262.21	6261.92	-192.82	40°13'19.110"N	104°49'04.093"W	0.00	
12968.00†	90.000	359.910	7339.00	6362.21	6361.92	-192.98	40°13'20.098"N	104°49'04.095"W	0.00	
13068.00†	90.000	359.910	7339.00	6462.21	6461.92	-193.13	40°13'21.086"N	104°49'04.097"W	0.00	
13168.00†	90.000	359.910	7339.00	6562.21	6561.92	-193.29	40°13'22.075"N	104°49'04.099"W	0.00	
13268.00†	90.000	359.910	7339.00	6662.21	6661.92	-193.45	40°13'23.063"N	104°49'04.101"W	0.00	
13368.00†	90.000	359.910	7339.00	6762.21	6761.92	-193.61	40°13'24.051"N	104°49'04.103"W	0.00	
13468.00†	90.000	359.910	7339.00	6862.21	6861.92	-193.76	40°13'25.039"N	104°49'04.105"W	0.00	
13568.00†	90.000	359.910	7339.00	6962.21	6961.92	-193.92	40°13'26.027"N	104°49'04.107"W	0.00	
13668.00†	90.000	359.910	7339.00	7062.21	7061.92	-194.08	40°13'27.016"N	104°49'04.109"W	0.00	
13768.00†	90.000	359.910	7339.00	7162.21	7161.92	-194.23	40°13'28.004"N	104°49'04.111"W	0.00	
13868.00†	90.000	359.910	7339.00	7262.21	7261.92	-194.39	40°13'28.992"N	104°49'04.113"W	0.00	
13968.00†	90.000	359.910	7339.00	7362.21	7361.92	-194.55	40°13'29.980"N	104°49'04.115"W	0.00	
14068.00†	90.000	359.910	7339.00	7462.21	7461.92	-194.70	40°13'30.968"N	104°49'04.117"W	0.00	
14168.00†	90.000	359.910	7339.00	7562.21	7561.92	-194.86	40°13'31.957"N	104°49'04.119"W	0.00	
14268.00†	90.000	359.910	7339.00	7662.21	7661.92	-195.02	40°13'32.945"N	104°49'04.121"W	0.00	
14368.00†	90.000	359.910	7339.00	7762.21	7761.92	-195.17	40°13'33.933"N	104°49'04.123"W	0.00	
14468.00†	90.000	359.910	7339.00	7862.21	7861.92	-195.33	40°13'34.921"N	104°49'04.125"W	0.00	
14568.00†	90.000	359.910	7339.00	7962.21	7961.92	-195.49	40°13'35.909"N	104°49'04.127"W	0.00	
14668.00†	90.000	359.910	7339.00	8062.21	8061.92	-195.64	40°13'36.897"N	104°49'04.129"W	0.00	
14768.00†	90.000	359.910	7339.00	8162.21	8161.92	-195.80	40°13'37.886"N	104°49'04.131"W	0.00	
14868.00†	90.000	359.910	7339.00	8262.21	8261.92	-195.96	40°13'38.874"N	104°49'04.133"W	0.00	
14968.00†	90.000	359.910	7339.00	8362.21	8361.92	-196.11	40°13'39.862"N	104°49'04.135"W	0.00	
15068.00†	90.000	359.910	7339.00	8462.21	8461.92	-196.27	40°13'40.850"N	104°49'04.137"W	0.00	
15168.00†	90.000	359.910	7339.00	8562.21	8561.92	-196.43	40°13'41.838"N	104°49'04.139"W	0.00	
15268.00†	90.000	359.910	7339.00	8662.21	8661.92	-196.58	40°13'42.827"N	104°49'04.141"W	0.00	
15368.00†	90.000	359.910	7339.00	8762.21	8761.92	-196.74	40°13'43.815"N	104°49'04.144"W	0.00	
15468.00†	90.000	359.910	7339.00	8862.21	8861.92	-196.89	40°13'44.803"N	104°49'04.146"W	0.00	
15568.00†	90.000	359.910	7339.00	8962.21	8961.92	-197.05	40°13'45.791"N	104°49'04.148"W	0.00	
15668.00†	90.000	359.910	7339.00	9062.21	9061.92	-197.21	40°13'46.779"N	104°49'04.150"W	0.00	
15768.00†	90.000	359.910	7339.00	9162.21	9161.92	-197.36	40°13'47.768"N	104°49'04.152"W	0.00	
15868.00†	90.000	359.910	7339.00	9262.21	9261.92	-197.52	40°13'48.756"N	104°49'04.154"W	0.00	
15968.00†	90.000	359.910	7339.00	9362.21	9361.92	-197.68	40°13'49.744"N	104°49'04.156"W	0.00	
16068.00†	90.000	359.910	7339.00	9462.21	9461.92	-197.83	40°13'50.732"N	104°49'04.158"W	0.00	
16085.50	90.000	359.910	7339.00 ¹	9479.72	9479.42	-197.86	40°13'50.905"N	104°49'04.158"W	0.00	TOTAL DEPTH



Planned Wellpath Report

HARRIS FEDERAL 15C-18HZ (REV-B.0) PWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 HARRIS FEDERAL 15C-18HZ (682' FSL & 1801' FEL, SEC.19)
Area	COLORADO	Well	HARRIS FEDERAL 15C-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HARRIS FEDERAL 15C-18HZ PWB
Facility	SEC.19-T3N-R66W		

HOLE & CASING SECTIONS -									
Ref Wellbore: HARRIS FEDERAL 15C-18HZ PWB					Ref Wellpath: HARRIS FEDERAL 15C-18HZ (REV-B.0) PWP				
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	17.00	590.00	573.00	17.00	589.97	0.00	0.00	-0.82	5.28
9.625in Casing Surface	17.00	590.00	573.00	17.00	589.97	0.00	0.00	-0.82	5.28
8.75in Open Hole	590.00	7700.41	7110.41	589.97	7339.00	-0.82	5.28	1094.34	-184.68
7in Casing Intermediate	17.00	7700.41	7683.41	17.00	7339.00	0.00	0.00	1094.34	-184.68
6.125in Open Hole	7700.41	16085.50	8385.09	7339.00	7339.00	1094.34	-184.68	9479.42	-197.86
4.5in Casing Production	17.00	16085.50	16068.50	17.00	7339.00	0.00	0.00	9479.42	-197.86

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)		4849.00	0.00	0.00	3190736.85	1318180.40	40°12'17.230"N	104°49'01.607"W	polygon
SEC.18-T3N-R66W SECTION LINES		4849.00	0.00	0.00	3190736.85	1318180.40	40°12'17.230"N	104°49'01.607"W	polygon
SEC.19-T3N-R66W HARDLINES (460' SETBACKS)		4849.00	0.00	0.00	3190736.85	1318180.40	40°12'17.230"N	104°49'01.607"W	polygon
SEC.19-T3N-R66W SECTION LINES		4849.00	0.00	0.00	3190736.85	1318180.40	40°12'17.230"N	104°49'01.607"W	polygon
HARRIS FEDERAL 15N-18HZ (460' FNL & 1977' FEL, SEC.19) REV-2		7109.00	9479.42	-197.86	3190466.01	1327657.59	40°13'50.905"N	104°49'04.158"W	point
HARRIS FEDERAL 15N-18HZ BHL ON PLAT (460' FNL & 1850' FEL, SEC.19) REV-1		7109.00	9479.40	-72.83	3190591.03	1327658.53	40°13'50.905"N	104°49'02.546"W	point
HARRIS FEDERAL 15C-18HZ LAND BOX		7109.00	0.00	0.00	3190736.85	1318180.40	40°12'17.230"N	104°49'01.607"W	polygon
1) HARRIS FEDERAL 15C-18HZ (460' FNL & 1977' FEL, SEC.19) REV-3	16085.50	7339.00	9479.42	-197.86	3190466.01	1327657.59	40°13'50.905"N	104°49'04.158"W	point

SURVEY PROGRAM - Ref Wellbore: HARRIS FEDERAL 15C-18HZ PWB Ref Wellpath: HARRIS FEDERAL 15C-18HZ (REV-B.0) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	568.00	NaviTrak (MagCorr)		HARRIS FEDERAL 15C-18HZ AWB
568.00	7700.41	NaviTrak (MAGCORR,IFR)		HARRIS FEDERAL 15C-18HZ PWB
7700.41	16085.50	OnTrak (MAGCORR,IFR)		HARRIS FEDERAL 15C-18HZ PWB



Planned Wellpath Report

HARRIS FEDERAL 15C-18HZ (REV-B.0) PWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP	Slot	SLOT#01 HARRIS FEDERAL 15C-18HZ (682' FSL & 1801' FEL, SEC.19)
Area	COLORADO	Well	HARRIS FEDERAL 15C-18HZ
Field	WELD COUNTY (KERR MCGEE)	Wellbore	HARRIS FEDERAL 15C-18HZ PWB
Facility	SEC.19-T3N-R66W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
706.04	0.580	117.080	706.00	Fox Hills
3377.10	7.000	341.000	3369.00	Parkman
4287.89	7.000	341.000	4273.00	Sussex
7043.31	24.390	354.875	7002.00	Sharon Springs
7111.16	31.150	356.135	7062.00	Niobrara A
7176.65	37.683	356.957	7116.00	Niobrara B Chalk
7265.73	46.575	357.751	7182.00	Niobrara C
7537.44	73.716	359.244	7316.00	Fort Hays
7641.70	84.134	359.675	7336.00	Codell

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
568.00	0.580	117.080	567.97	TIE-INTO MWD SURVEYS
2050.10	0.580	117.080	2050.00	BEGIN NUDGE
2421.54	7.000	341.000	2420.56	END NUDGE
6866.62	7.000	341.000	6832.50	KOP, BUILD @ 10°/100'
7700.41	90.000	359.910	7339.00	LANDING POINT
16085.50	90.000	359.910	7339.00	TOTAL DEPTH