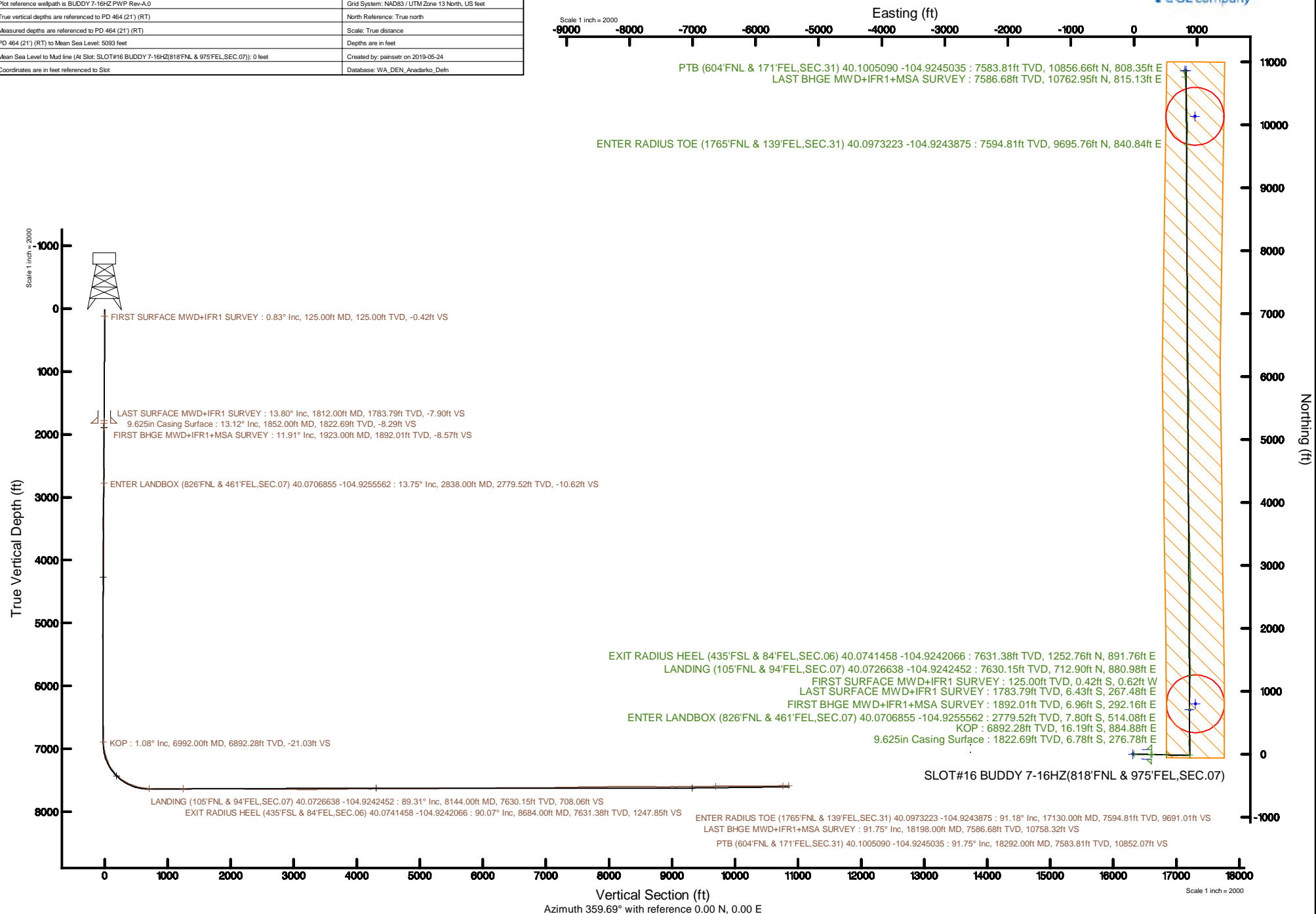


Location:	COLORADO	Slot:	SLOT#16 BUDDY 7-16HZ(818'FNL & 975'FEL,SEC.07)
Field:	WELD COUNTY (UTM/TRUE NORTH)	Well:	BUDDY 7-16HZ
Facility:	SEC.07-T1N-R67W	Wellbore:	BUDDY 7-16HZ PWB

Plot reference wellpath is BUDDY 7-16HZ P/WP Rev-A.0	Grid System: NAD83 / UTM Zone 13 North, US feet
True vertical depths are referenced to PD 464 (21) (RT)	North Reference: True north
Measured depths are referenced to PD 464 (21) (RT)	Scale: True distance
PD 464 (21) (RT) to Mean Sea Level: 5093 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot: SLOT#16 BUDDY 7-16HZ(818FNL & 975FEL,SEC.07)): 0 feet	Created by: pyainstr on 2019-05-24
Coordinates are in feet referenced to Slot	Database: WA_DEN_Anadarko_Defn



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#16 BUDDY 7-16HZ(818'FNL & 975'FEL,SEC.07)
Area	COLORADO	Well	BUDDY 7-16HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUDDY 7-16HZ AWB
Facility	SEC.07-T1N-R67W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.1
North Reference	True	User	Painsetr
Scale	0.999600	Report Generated	5/24/2019 at 9:06:58 AM
Convergence at slot	0.05° East	Database/Source file	WA_DEN_Anadarko_Defn/BUDDY_7-16HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-120.62	104.25	1660729.32	14552489.17	40°04'14.545"N	104°55'38.615"W
Facility Reference Pt			1660625.01	14552609.66	40°04'15.737"N	104°55'39.956"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	PD 464 (21') (RT) to Facility Vertical Datum	5093.00ft
Horizontal Reference Pt	Slot	PD 464 (21') (RT) to Mean Sea Level	5093.00ft
Vertical Reference Pt	PD 464 (21') (RT)	PD 464 (21') (RT) to Mud Line at Slot (SLOT#16 BUDDY 7-16HZ (818'FNL & 975'FEL,SEC.07))	5093.00ft
MD Reference Pt	PD 464 (21') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.69°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#16 BUDDY 7-16HZ(818'FNL & 975'FEL,SEC.07)
Area	COLORADO	Well	BUDDY 7-16HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUDDY 7-16HZ AWB
Facility	SEC.07-T1N-R67W		

WELLPATH DATA (208 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	236.010	0.00	0.00	0.00	0.00	1660729.32	14552489.17	40°04'14.545°N	104°55'38.615°W	0.00	
21.00	0.000	236.010	21.00	0.00	0.00	0.00	1660729.32	14552489.17	40°04'14.545°N	104°55'38.615°W	0.00	
125.00	0.830	236.010	125.00	-0.42	-0.42	-0.62	1660728.70	14552488.75	40°04'14.541°N	104°55'38.623°W	0.80	FIRST SURFACE MWD+IFR1 SURVEY
220.00	0.090	184.680	219.99	-0.87	-0.88	-1.20	1660728.12	14552488.29	40°04'14.536°N	104°55'38.630°W	0.82	
315.00	0.700	59.170	314.99	-0.65	-0.66	-0.71	1660728.61	14552488.52	40°04'14.539°N	104°55'38.624°W	0.80	
410.00	2.860	79.480	409.94	0.06	0.07	2.12	1660731.44	14552489.25	40°04'14.546°N	104°55'38.588°W	2.33	
505.00	4.790	87.740	504.72	0.62	0.66	8.41	1660737.73	14552489.84	40°04'14.552°N	104°55'38.507°W	2.11	
600.00	6.680	92.480	599.25	0.48	0.58	17.90	1660747.21	14552489.77	40°04'14.551°N	104°55'38.385°W	2.05	
695.00	7.690	91.250	693.50	0.04	0.20	29.77	1660759.08	14552489.40	40°04'14.547°N	104°55'38.232°W	1.08	
790.00	8.090	97.320	787.60	-1.02	-0.79	42.76	1660772.07	14552488.42	40°04'14.537°N	104°55'38.065°W	0.97	
885.00	9.010	90.200	881.55	-1.98	-1.67	56.83	1660786.13	14552487.55	40°04'14.529°N	104°55'37.884°W	1.47	
980.00	10.370	89.670	975.19	-2.04	-1.64	72.82	1660802.11	14552487.59	40°04'14.529°N	104°55'37.678°W	1.43	
1075.00	11.380	92.920	1068.48	-2.57	-2.07	90.73	1660820.02	14552487.18	40°04'14.525°N	104°55'37.448°W	1.24	
1171.00	12.350	89.760	1162.43	-3.12	-2.51	110.45	1660839.74	14552486.75	40°04'14.520°N	104°55'37.194°W	1.22	
1266.00	13.100	91.780	1255.10	-3.52	-2.80	131.38	1660860.65	14552486.48	40°04'14.517°N	104°55'36.925°W	0.92	
1361.00	13.970	93.360	1347.46	-4.65	-3.81	153.58	1660882.85	14552485.49	40°04'14.507°N	104°55'36.639°W	0.99	
1457.00	15.640	89.850	1440.27	-5.43	-4.45	178.09	1660907.35	14552484.87	40°04'14.501°N	104°55'36.324°W	1.97	
1551.00	15.380	90.380	1530.85	-5.62	-4.50	203.23	1660932.48	14552484.84	40°04'14.500°N	104°55'36.001°W	0.32	
1646.00	14.500	92.220	1622.63	-6.30	-5.05	227.71	1660956.95	14552484.31	40°04'14.495°N	104°55'35.686°W	1.05	
1741.00	13.540	91.610	1714.80	-7.20	-5.82	250.71	1660979.94	14552483.56	40°04'14.487°N	104°55'35.390°W	1.02	
1812.00	13.800	92.570	1783.79	-7.90	-6.43	267.48	1660996.70	14552482.96	40°04'14.481°N	104°55'35.174°W	0.49	LAST SURFACE MWD+IFR1 SURVEY
1923.00	11.910	89.680	1892.01	-8.57	-6.96	292.16	1661021.37	14552482.45	40°04'14.476°N	104°55'34.857°W	1.80	FIRST BHGE MWD+IFR1+MSA SURVEY
2013.00	13.140	83.150	1979.87	-7.40	-5.69	311.61	1661040.81	14552483.74	40°04'14.489°N	104°55'34.607°W	2.08	
2103.00	13.950	88.980	2067.37	-6.10	-4.28	332.61	1661061.81	14552485.17	40°04'14.503°N	104°55'34.337°W	1.76	
2193.00	14.930	95.650	2154.53	-7.17	-5.23	355.00	1661084.18	14552484.24	40°04'14.493°N	104°55'34.049°W	2.14	
2282.00	13.520	92.750	2240.80	-8.92	-6.86	376.80	1661105.98	14552482.63	40°04'14.477°N	104°55'33.768°W	1.77	
2372.00	15.150	90.060	2328.00	-9.56	-7.37	399.07	1661128.24	14552482.13	40°04'14.472°N	104°55'33.482°W	1.96	
2461.00	13.360	87.940	2414.25	-9.32	-7.01	420.98	1661150.14	14552482.50	40°04'14.476°N	104°55'33.200°W	2.09	
2551.00	15.690	88.320	2501.37	-8.71	-6.28	443.54	1661172.69	14552483.25	40°04'14.483°N	104°55'32.910°W	2.59	
2641.00	13.640	87.260	2588.43	-7.98	-5.42	466.30	1661195.44	14552484.14	40°04'14.491°N	104°55'32.617°W	2.30	
2730.00	14.590	92.980	2674.75	-8.18	-5.50	487.98	1661217.11	14552484.07	40°04'14.491°N	104°55'32.338°W	1.90	
2820.00	13.640	96.620	2762.03	-10.11	-7.31	509.85	1661238.97	14552482.28	40°04'14.473°N	104°55'32.057°W	1.44	
2838.00†	13.753	96.436	2779.52	-10.62	-7.80	514.08	1661243.20	14552481.80	40°04'14.468°N	104°55'32.002°W	0.67	ENTER LANDBOX (826°FNL & 461°FEL,SEC.07) 40.0706855 -104.9255562
2909.00	14.200	95.740	2848.42	-12.53	-9.62	531.13	1661260.25	14552479.99	40°04'14.450°N	104°55'31.783°W	0.67	
2999.00	14.620	96.900	2935.59	-15.12	-12.08	553.39	1661282.50	14552477.55	40°04'14.426°N	104°55'31.497°W	0.57	
3089.00	14.580	93.920	3022.68	-17.38	-14.22	575.97	1661305.07	14552475.43	40°04'14.404°N	104°55'31.206°W	0.84	
3179.00	15.210	92.920	3109.66	-18.88	-15.60	599.06	1661328.16	14552474.07	40°04'14.391°N	104°55'30.909°W	0.76	
3268.00	12.280	92.390	3196.10	-19.99	-16.59	620.18	1661349.27	14552473.10	40°04'14.381°N	104°55'30.638°W	3.30	
3358.00	14.260	93.760	3283.69	-21.23	-17.71	640.81	1661369.89	14552471.99	40°04'14.370°N	104°55'30.372°W	2.23	
3465.00	14.790	89.430	3387.28	-22.10	-18.44	667.61	1661396.68	14552471.28	40°04'14.363°N	104°55'30.028°W	1.13	
3555.00	14.480	89.610	3474.36	-22.04	-18.25	690.35	1661419.41	14552471.49	40°04'14.365°N	104°55'29.735°W	0.35	
3644.00	14.050	85.400	3560.61	-21.21	-17.31	712.25	1661441.30	14552472.45	40°04'14.374°N	104°55'29.453°W	1.26	
3734.00	14.200	93.850	3647.90	-21.20	-17.18	734.15	1661463.20	14552472.60	40°04'14.375°N	104°55'29.172°W	2.30	
3824.00	12.230	89.960	3735.52	-22.05	-17.91	754.70	1661483.74	14552471.89	40°04'14.368°N	104°55'28.907°W	2.40	
3913.00	13.740	91.640	3822.24	-22.45	-18.21	774.70	1661503.72	14552471.61	40°04'14.365°N	104°55'28.650°W	1.75	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#16 BUDDY 7-16HZ(818'FNL & 975'FEL,SEC.07)
Area	COLORADO	Well	BUDDY 7-16HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUDDY 7-16HZ AWB
Facility	SEC.07-T1N-R67W		

WELLPATH DATA (208 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4003.00	12.110	92.200	3909.95	-23.23	-18.87	794.82	1661523.83	14552470.95	40°04'14.358"N	104°55'28.391"W	1.82	
4093.00	12.040	91.080	3997.96	-23.87	-19.41	813.63	1661542.65	14552470.43	40°04'14.353"N	104°55'28.149"W	0.27	
4183.00	9.100	90.040	4086.43	-24.14	-19.60	830.14	1661559.15	14552470.26	40°04'14.351"N	104°55'27.937"W	3.27	
4272.00	8.510	87.260	4174.38	-23.91	-19.29	843.76	1661572.76	14552470.58	40°04'14.354"N	104°55'27.762"W	0.82	
4362.00	6.970	84.500	4263.56	-23.13	-18.44	855.84	1661584.84	14552471.43	40°04'14.363"N	104°55'27.606"W	1.76	
4452.00	5.900	84.400	4352.99	-22.21	-17.47	865.88	1661594.87	14552472.42	40°04'14.372"N	104°55'27.477"W	1.19	
4541.00	3.870	77.420	4441.66	-21.15	-16.37	873.37	1661602.35	14552473.52	40°04'14.383"N	104°55'27.381"W	2.37	
4631.00	1.420	120.760	4531.56	-21.08	-16.28	877.29	1661606.28	14552473.62	40°04'14.384"N	104°55'27.330"W	3.33	
4720.00	1.170	157.100	4620.54	-22.49	-17.68	878.59	1661607.58	14552472.22	40°04'14.370"N	104°55'27.314"W	0.95	
4810.00	1.030	154.760	4710.53	-24.07	-19.26	879.30	1661608.28	14552470.64	40°04'14.355"N	104°55'27.305"W	0.16	
4899.00	0.580	131.990	4799.52	-25.10	-20.28	879.97	1661608.96	14552469.62	40°04'14.344"N	104°55'27.296"W	0.61	
4989.00	0.570	168.100	4889.51	-25.85	-21.02	880.40	1661609.39	14552468.88	40°04'14.337"N	104°55'27.290"W	0.40	
5079.00	0.610	139.900	4979.51	-26.66	-21.83	880.80	1661609.79	14552468.07	40°04'14.329"N	104°55'27.285"W	0.32	
5168.00	0.640	151.260	5068.50	-27.46	-22.63	881.35	1661610.33	14552467.27	40°04'14.321"N	104°55'27.278"W	0.14	
5258.00	0.640	139.460	5158.50	-28.28	-23.45	881.92	1661610.90	14552466.45	40°04'14.313"N	104°55'27.271"W	0.15	
5347.00	0.360	336.190	5247.50	-28.41	-23.57	882.13	1661611.11	14552466.33	40°04'14.312"N	104°55'27.268"W	1.11	
5437.00	0.530	319.650	5337.49	-27.83	-23.00	881.74	1661610.73	14552466.91	40°04'14.318"N	104°55'27.273"W	0.23	
5527.00	1.260	285.960	5427.48	-27.23	-22.41	880.52	1661609.51	14552467.49	40°04'14.323"N	104°55'27.289"W	0.97	
5616.00	1.350	292.870	5516.46	-26.54	-21.73	878.61	1661607.60	14552468.17	40°04'14.330"N	104°55'27.313"W	0.20	
5706.00	1.020	14.820	5606.45	-25.35	-20.54	877.84	1661606.83	14552469.35	40°04'14.342"N	104°55'27.323"W	1.75	
5795.00	1.110	2.890	5695.43	-23.73	-18.92	878.09	1661607.07	14552470.98	40°04'14.358"N	104°55'27.320"W	0.27	
5885.00	1.300	73.790	5785.41	-22.58	-17.76	879.11	1661608.10	14552472.14	40°04'14.369"N	104°55'27.307"W	1.56	
5974.00	1.820	78.370	5874.38	-22.02	-17.19	881.47	1661610.45	14552472.71	40°04'14.375"N	104°55'27.277"W	0.60	
6064.00	0.640	108.180	5964.36	-21.90	-17.06	883.34	1661612.33	14552472.84	40°04'14.376"N	104°55'27.253"W	1.45	
6153.00	1.260	111.840	6053.35	-22.43	-17.58	884.72	1661613.71	14552472.32	40°04'14.371"N	104°55'27.235"W	0.70	
6243.00	0.820	223.390	6143.34	-23.27	-18.42	885.20	1661614.18	14552471.48	40°04'14.363"N	104°55'27.229"W	1.93	
6333.00	0.500	178.870	6233.33	-24.13	-19.28	884.77	1661613.75	14552470.62	40°04'14.354"N	104°55'27.234"W	0.65	
6422.00	0.750	84.470	6322.33	-24.46	-19.61	885.35	1661614.34	14552470.29	40°04'14.351"N	104°55'27.227"W	1.05	
6529.00	0.900	66.340	6429.32	-24.07	-19.21	886.82	1661615.80	14552470.70	40°04'14.355"N	104°55'27.208"W	0.28	
6619.00	0.920	325.780	6519.31	-23.19	-18.32	887.06	1661616.04	14552471.58	40°04'14.364"N	104°55'27.205"W	1.56	
6709.00	0.750	351.060	6609.30	-22.00	-17.15	886.56	1661615.54	14552472.76	40°04'14.375"N	104°55'27.211"W	0.45	
6799.00	1.030	354.100	6699.29	-20.62	-15.76	886.39	1661615.37	14552474.14	40°04'14.389"N	104°55'27.213"W	0.32	
6888.00	0.950	224.960	6788.29	-20.34	-15.49	885.79	1661614.76	14552474.42	40°04'14.392"N	104°55'27.221"W	2.01	
6978.00	0.510	229.420	6878.28	-21.12	-16.27	884.95	1661613.93	14552473.63	40°04'14.384"N	104°55'27.232"W	0.49	
6992.00†	1.081	346.686	6892.28	-21.03	-16.19	884.88	1661613.86	14552473.72	40°04'14.385"N	104°55'27.233"W	9.93	KOP
7068.00	8.580	3.370	6967.95	-14.67	-9.82	885.04	1661614.02	14552480.08	40°04'14.448"N	104°55'27.231"W	9.93	
7158.00	14.040	358.260	7056.18	2.96	7.81	885.11	1661614.07	14552497.70	40°04'14.622"N	104°55'27.230"W	6.16	
7247.00	17.620	354.370	7141.79	27.17	32.01	883.46	1661612.40	14552521.89	40°04'14.861"N	104°55'27.251"W	4.19	
7337.00	23.140	355.360	7226.12	58.39	63.22	880.69	1661609.61	14552553.09	40°04'15.170"N	104°55'27.287"W	6.15	
7427.00	33.790	358.430	7305.13	101.17	105.99	878.57	1661607.45	14552595.84	40°04'15.592"N	104°55'27.314"W	11.94	
7516.00	40.040	359.340	7376.26	154.60	159.41	877.56	1661606.40	14552649.23	40°04'16.120"N	104°55'27.327"W	7.05	
7606.00	45.130	1.220	7442.50	215.47	220.28	877.90	1661606.69	14552710.08	40°04'16.722"N	104°55'27.323"W	5.83	
7695.00	58.030	2.400	7497.69	285.00	289.83	880.16	1661608.90	14552779.60	40°04'17.409"N	104°55'27.293"W	14.53	
7785.00	63.410	359.380	7541.70	363.44	368.28	881.33	1661610.00	14552858.02	40°04'18.184"N	104°55'27.278"W	6.65	
7875.00	68.190	358.050	7578.59	445.49	450.32	879.47	1661608.07	14552940.03	40°04'18.995"N	104°55'27.302"W	5.48	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#16 BUDDY 7-16HZ(818'FNL & 975'FEL,SEC.07)
Area	COLORADO	Well	BUDDY 7-16HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUDDY 7-16HZ AWB
Facility	SEC.07-T1N-R67W		

WELLPATH DATA (208 stations) † = interpolated/extrapolated station												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7964.00	76.270	0.030	7605.73	530.17	534.99	878.09	1661606.62	14553024.66	40°04'19.832"N	104°55'27.320"W	9.32	
8054.00	81.580	1.610	7623.01	618.44	623.27	879.36	1661607.82	14553112.91	40°04'20.704"N	104°55'27.304"W	6.15	
8144.00	89.310	0.470	7630.15	708.06	712.90	880.98	1661609.37	14553202.50	40°04'21.590"N	104°55'27.283"W	8.68	LANDING (105'FNL & 94'FEL,SEC.07) 40.0726638 -104.9242452
8234.00	90.670	1.020	7630.17	798.04	802.89	882.15	1661610.47	14553292.46	40°04'22.479"N	104°55'27.268"W	1.63	
8323.00	89.550	2.070	7630.00	886.99	891.85	884.55	1661612.79	14553381.39	40°04'23.358"N	104°55'27.237"W	1.72	
8413.00	90.680	0.550	7629.82	976.95	981.83	886.61	1661614.78	14553471.33	40°04'24.247"N	104°55'27.210"W	2.10	
8503.00	89.450	1.420	7629.72	1066.93	1071.81	888.16	1661616.25	14553561.28	40°04'25.137"N	104°55'27.190"W	1.67	
8592.00	89.180	1.530	7630.78	1155.88	1160.77	890.45	1661618.47	14553650.21	40°04'26.016"N	104°55'27.161"W	0.33	
8682.00	90.050	0.130	7631.38	1245.85	1250.76	891.75	1661619.70	14553740.16	40°04'26.905"N	104°55'27.144"W	1.83	
8684.00†	90.071	0.136	7631.38	1247.85	1252.76	891.76	1661619.70	14553742.16	40°04'26.925"N	104°55'27.144"W	1.08	EXIT RADIUS HEEL (435'FSL & 84'FEL,SEC.06) 40.0741458 -104.9242066
8772.00	90.990	0.380	7630.57	1335.84	1340.75	892.15	1661620.02	14553830.11	40°04'27.794"N	104°55'27.139"W	1.08	
8861.00	89.550	358.440	7630.15	1424.83	1429.74	891.23	1661619.03	14553919.07	40°04'28.674"N	104°55'27.150"W	2.71	
8951.00	89.440	358.180	7630.94	1514.81	1519.70	888.58	1661616.31	14554008.98	40°04'29.563"N	104°55'27.185"W	0.31	
9040.00	90.790	358.370	7630.76	1603.78	1608.66	885.90	1661613.56	14554097.90	40°04'30.442"N	104°55'27.219"W	1.53	
9130.00	89.440	359.920	7630.58	1693.77	1698.64	884.56	1661612.14	14554187.85	40°04'31.331"N	104°55'27.236"W	2.28	
9220.00	90.560	359.590	7630.58	1783.77	1788.64	884.17	1661611.68	14554277.81	40°04'32.221"N	104°55'27.241"W	1.30	
9309.00	89.300	0.480	7630.69	1872.76	1877.64	884.23	1661611.66	14554366.77	40°04'33.100"N	104°55'27.240"W	1.73	
9399.00	90.190	0.080	7631.09	1962.75	1967.63	884.67	1661612.03	14554456.74	40°04'33.989"N	104°55'27.235"W	1.08	
9489.00	88.820	0.440	7631.87	2052.74	2057.63	885.08	1661612.37	14554546.69	40°04'34.879"N	104°55'27.229"W	1.57	
9578.00	89.040	0.600	7633.53	2141.72	2146.61	885.88	1661613.10	14554635.64	40°04'35.758"N	104°55'27.219"W	0.31	
9668.00	88.900	0.250	7635.15	2231.70	2236.59	886.55	1661613.69	14554725.59	40°04'36.647"N	104°55'27.210"W	0.42	
9758.00	89.470	0.080	7636.43	2321.68	2326.58	886.81	1661613.88	14554815.54	40°04'37.537"N	104°55'27.207"W	0.66	
9847.00	91.010	1.240	7636.06	2410.67	2415.57	887.84	1661614.83	14554904.49	40°04'38.416"N	104°55'27.194"W	2.17	
9937.00	89.670	0.150	7635.52	2500.65	2505.56	888.93	1661615.85	14554994.45	40°04'39.305"N	104°55'27.180"W	1.92	
10026.00	90.530	359.960	7635.37	2589.64	2594.56	889.01	1661615.86	14555083.41	40°04'40.185"N	104°55'27.179"W	0.99	
10116.00	89.950	1.600	7634.99	2679.62	2684.54	890.24	1661617.01	14555173.36	40°04'41.074"N	104°55'27.163"W	1.93	
10206.00	89.250	2.010	7635.62	2769.56	2774.50	893.07	1661619.77	14555263.28	40°04'41.963"N	104°55'27.126"W	0.90	
10295.00	88.850	358.710	7637.09	2858.53	2863.47	893.63	1661620.26	14555352.22	40°04'42.842"N	104°55'27.119"W	3.73	
10385.00	88.440	358.160	7639.22	2948.48	2953.41	891.17	1661617.73	14555442.12	40°04'43.731"N	104°55'27.151"W	0.76	
10474.00	88.850	358.080	7641.33	3037.42	3042.34	888.26	1661614.74	14555531.01	40°04'44.610"N	104°55'27.188"W	0.47	
10564.00	88.850	359.280	7643.13	3127.39	3132.29	886.18	1661612.60	14555620.93	40°04'45.499"N	104°55'27.215"W	1.33	
10654.00	90.500	358.700	7643.64	3217.38	3222.27	884.60	1661610.94	14555710.87	40°04'46.388"N	104°55'27.235"W	1.94	
10743.00	90.900	358.830	7642.56	3306.36	3311.25	882.68	1661608.95	14555799.81	40°04'47.267"N	104°55'27.260"W	0.47	
10833.00	90.900	359.370	7641.14	3396.34	3401.22	881.26	1661607.46	14555889.75	40°04'48.156"N	104°55'27.278"W	0.60	
10923.00	89.720	357.880	7640.66	3486.32	3491.19	879.11	1661605.23	14555979.68	40°04'49.045"N	104°55'27.306"W	2.11	
11013.00	90.300	356.690	7640.64	3576.24	3581.09	874.84	1661600.89	14556069.54	40°04'49.934"N	104°55'27.360"W	1.47	
11102.00	90.220	357.060	7640.24	3665.13	3669.96	869.99	1661595.97	14556158.36	40°04'50.812"N	104°55'27.423"W	0.43	
11192.00	92.160	358.850	7638.37	3755.06	3759.87	866.78	1661592.69	14556248.24	40°04'51.701"N	104°55'27.464"W	2.93	
11281.00	92.020	0.030	7635.12	3844.00	3848.81	865.91	1661591.75	14556337.14	40°04'52.579"N	104°55'27.475"W	1.33	
11371.00	90.810	0.290	7632.90	3933.97	3938.78	866.16	1661591.92	14556427.07	40°04'53.469"N	104°55'27.472"W	1.38	
11461.00	88.240	359.740	7633.64	4023.96	4028.77	866.19	1661591.87	14556517.03	40°04'54.358"N	104°55'27.472"W	2.92	
11550.00	90.120	358.940	7634.92	4112.94	4117.75	865.16	1661590.78	14556605.97	40°04'55.237"N	104°55'27.485"W	2.30	
11640.00	89.760	355.820	7635.01	4202.86	4207.64	861.05	1661586.59	14556695.83	40°04'56.126"N	104°55'27.538"W	3.49	
11730.00	92.270	0.270	7633.42	4292.78	4297.54	857.98	1661583.45	14556785.69	40°04'57.014"N	104°55'27.577"W	5.68	
11819.00	90.080	357.970	7631.59	4381.74	4386.50	856.61	1661582.01	14556874.61	40°04'57.893"N	104°55'27.595"W	3.57	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#16 BUDDY 7-16HZ(818'FNL & 975'FEL,SEC.07)
Area	COLORADO	Well	BUDDY 7-16HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUDDY 7-16HZ AWB
Facility	SEC.07-T1N-R67W		

WELLPATH DATA (208 stations)												
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11909.00	90.840	1.080	7630.87	4471.73	4476.49	855.86	1661581.19	14556964.56	40°04'58.782"N	104°55'27.604"W	3.56	
11999.00	90.390	359.940	7629.90	4561.71	4566.48	856.66	1661581.92	14557054.51	40°04'59.672"N	104°55'27.594"W	1.36	
12088.00	89.980	358.700	7629.62	4650.71	4655.47	855.61	1661580.79	14557143.47	40°05'00.551"N	104°55'27.607"W	1.47	
12178.00	91.050	1.110	7628.81	4740.70	4745.46	855.46	1661580.57	14557233.42	40°05'01.440"N	104°55'27.609"W	2.93	
12267.00	89.280	358.820	7628.55	4829.69	4834.45	855.40	1661580.44	14557322.37	40°05'02.320"N	104°55'27.610"W	3.25	
12357.00	89.980	0.510	7629.13	4919.68	4924.44	854.88	1661579.84	14557412.33	40°05'03.209"N	104°55'27.617"W	2.03	
12446.00	89.760	0.010	7629.33	5008.67	5013.44	855.28	1661580.17	14557501.29	40°05'04.089"N	104°55'27.611"W	0.61	
12536.00	89.870	0.290	7629.62	5098.67	5103.44	855.52	1661580.34	14557591.26	40°05'04.978"N	104°55'27.608"W	0.33	
12626.00	90.500	0.780	7629.33	5188.66	5193.43	856.36	1661581.10	14557681.22	40°05'05.867"N	104°55'27.597"W	0.89	
12715.00	90.590	3.720	7628.49	5277.56	5282.35	859.85	1661584.52	14557770.10	40°05'06.746"N	104°55'27.552"W	3.30	
12805.00	90.420	3.380	7627.69	5367.35	5372.17	865.42	1661590.02	14557859.89	40°05'07.634"N	104°55'27.481"W	0.42	
12894.00	91.190	0.220	7626.44	5456.27	5461.11	868.22	1661592.74	14557948.79	40°05'08.513"N	104°55'27.445"W	3.65	
12984.00	90.780	0.390	7624.90	5546.25	5551.09	868.70	1661593.15	14558038.74	40°05'09.402"N	104°55'27.439"W	0.49	
13073.00	89.500	358.750	7624.68	5635.24	5640.09	868.03	1661592.41	14558127.70	40°05'10.281"N	104°55'27.447"W	2.34	
13163.00	90.470	359.640	7624.70	5725.24	5730.07	866.77	1661591.07	14558217.65	40°05'11.171"N	104°55'27.463"W	1.46	
13253.00	89.270	356.010	7624.91	5815.17	5819.99	863.35	1661587.58	14558307.53	40°05'12.059"N	104°55'27.507"W	4.25	
13342.00	89.280	354.430	7626.03	5903.89	5908.67	855.94	1661580.10	14558396.17	40°05'12.935"N	104°55'27.603"W	1.78	
13433.00	91.350	356.840	7625.53	5994.65	5999.40	849.01	1661573.10	14558486.85	40°05'13.832"N	104°55'27.692"W	3.49	
13522.00	91.160	357.830	7623.58	6083.56	6088.28	844.87	1661568.89	14558575.69	40°05'14.710"N	104°55'27.745"W	1.13	
13612.00	90.900	359.970	7621.96	6173.53	6178.24	843.15	1661567.09	14558665.62	40°05'15.599"N	104°55'27.767"W	2.39	
13701.00	90.180	359.720	7621.13	6262.52	6267.24	842.90	1661566.78	14558754.58	40°05'16.479"N	104°55'27.770"W	0.86	
13791.00	90.330	358.580	7620.73	6352.52	6357.22	841.57	1661565.37	14558844.53	40°05'17.368"N	104°55'27.787"W	1.28	
13880.00	90.380	0.380	7620.17	6441.51	6446.21	840.76	1661564.49	14558933.48	40°05'18.248"N	104°55'27.798"W	2.02	
13970.00	90.950	359.630	7619.13	6531.50	6536.21	840.77	1661564.43	14559023.44	40°05'19.137"N	104°55'27.797"W	1.05	
14059.00	90.350	0.510	7618.12	6620.49	6625.20	840.88	1661564.46	14559112.40	40°05'20.016"N	104°55'27.796"W	1.20	
14149.00	90.040	0.220	7617.81	6710.49	6715.20	841.45	1661564.96	14559202.36	40°05'20.906"N	104°55'27.789"W	0.47	
14238.00	90.210	359.920	7617.62	6799.48	6804.20	841.56	1661565.00	14559291.32	40°05'21.785"N	104°55'27.787"W	0.39	
14328.00	90.180	0.160	7617.31	6889.48	6894.20	841.62	1661564.99	14559381.29	40°05'22.675"N	104°55'27.786"W	0.27	
14417.00	90.700	359.530	7616.63	6978.48	6983.19	841.38	1661564.67	14559470.25	40°05'23.554"N	104°55'27.789"W	0.92	
14507.00	90.350	358.350	7615.80	7068.46	7073.17	839.72	1661562.94	14559560.19	40°05'24.443"N	104°55'27.811"W	1.37	
14597.00	91.070	0.360	7614.69	7158.45	7163.15	838.70	1661561.85	14559650.13	40°05'25.332"N	104°55'27.824"W	2.37	
14686.00	91.930	359.810	7612.36	7247.42	7252.12	838.84	1661561.91	14559739.07	40°05'26.212"N	104°55'27.822"W	1.15	
14776.00	90.620	359.430	7610.36	7337.39	7342.10	838.24	1661561.24	14559829.00	40°05'27.101"N	104°55'27.830"W	1.52	
14866.00	90.930	0.110	7609.14	7427.38	7432.09	837.88	1661560.80	14559918.96	40°05'27.990"N	104°55'27.834"W	0.83	
14955.00	90.220	1.010	7608.25	7516.37	7521.08	838.75	1661561.60	14560007.91	40°05'28.870"N	104°55'27.823"W	1.29	
15045.00	90.520	359.640	7607.67	7606.36	7611.07	839.26	1661562.04	14560097.87	40°05'29.759"N	104°55'27.816"W	1.56	
15135.00	90.390	0.940	7606.95	7696.35	7701.06	839.71	1661562.42	14560187.83	40°05'30.648"N	104°55'27.810"W	1.45	
15224.00	91.350	0.080	7605.60	7785.33	7790.05	840.51	1661563.14	14560276.78	40°05'31.528"N	104°55'27.800"W	1.45	
15314.00	91.190	359.250	7603.60	7875.30	7880.02	839.98	1661562.54	14560366.72	40°05'32.417"N	104°55'27.807"W	0.94	
15404.00	91.270	0.570	7601.67	7965.28	7970.00	839.84	1661562.33	14560456.66	40°05'33.306"N	104°55'27.809"W	1.47	
15493.00	89.420	359.960	7601.14	8054.27	8059.00	840.25	1661562.66	14560545.61	40°05'34.185"N	104°55'27.803"W	2.19	
15583.00	90.010	359.090	7601.58	8144.27	8148.99	839.50	1661561.85	14560635.57	40°05'35.075"N	104°55'27.813"W	1.17	
15672.00	90.410	357.790	7601.26	8233.24	8237.95	837.08	1661559.35	14560724.50	40°05'35.954"N	104°55'27.844"W	1.53	
15762.00	90.220	358.760	7600.76	8323.21	8327.91	834.37	1661556.57	14560814.42	40°05'36.843"N	104°55'27.879"W	1.10	
15852.00	89.730	358.950	7600.80	8413.20	8417.89	832.57	1661554.70	14560904.36	40°05'37.732"N	104°55'27.902"W	0.58	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#16 BUDDY 7-16HZ(818'FNL & 975'FEL,SEC.07)
Area	COLORADO	Well	BUDDY 7-16HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUDDY 7-16HZ AWB
Facility	SEC.07-T1N-R67W		

WELLPATH DATA (208 stations) † = interpolated/extrapolated station												
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	DLS °/100ft	Comments
15941.00	89.670	0.860	7601.27	8502.20	8506.89	832.43	1661554.48	14560993.32	40°05'38.611"N	104°55'27.904"W	2.15	
16031.00	90.670	0.500	7601.00	8592.18	8596.88	833.49	1661555.47	14561083.28	40°05'39.501"N	104°55'27.890"W	1.18	
16120.00	89.350	0.770	7600.99	8681.17	8685.87	834.48	1661556.39	14561172.23	40°05'40.380"N	104°55'27.877"W	1.51	
16210.00	89.520	1.080	7601.87	8771.14	8775.86	835.93	1661557.77	14561262.18	40°05'41.269"N	104°55'27.859"W	0.39	
16300.00	89.780	0.270	7602.42	8861.13	8865.85	836.99	1661558.75	14561352.14	40°05'42.159"N	104°55'27.845"W	0.95	
16389.00	90.870	0.359	7601.92	8950.12	8954.84	837.05	1661558.73	14561441.10	40°05'43.038"N	104°55'27.844"W	1.33	
16479.00	89.620	0.300	7601.53	9040.12	9044.84	837.13	1661558.74	14561531.06	40°05'43.928"N	104°55'27.843"W	1.50	
16568.00	90.880	0.090	7601.15	9129.11	9133.84	837.43	1661558.97	14561620.02	40°05'44.807"N	104°55'27.839"W	1.44	
16658.00	89.760	0.570	7600.64	9219.10	9223.83	837.95	1661559.41	14561709.98	40°05'45.696"N	104°55'27.833"W	1.35	
16747.00	90.750	0.290	7600.25	9308.09	9312.83	838.62	1661560.01	14561798.94	40°05'46.576"N	104°55'27.824"W	1.16	
16837.00	90.190	1.200	7599.51	9398.07	9402.82	839.79	1661561.10	14561888.90	40°05'47.465"N	104°55'27.809"W	1.19	
16926.00	90.870	0.270	7598.68	9487.05	9491.80	840.93	1661562.17	14561977.85	40°05'48.345"N	104°55'27.794"W	1.29	
17016.00	91.110	0.359	7597.13	9577.04	9581.79	840.68	1661561.86	14562067.80	40°05'49.234"N	104°55'27.797"W	0.98	
17123.00	91.220	0.650	7594.95	9684.01	9688.76	840.75	1661561.83	14562174.73	40°05'50.291"N	104°55'27.796"W	1.15	
17130.00†	91.182	0.759	7594.81	9691.01	9695.76	840.84	1661561.92	14562181.72	40°05'50.360"N	104°55'27.795"W	1.65	ENTER RADIUS TOE (1765'FNL & 139'FEL,SEC.31) 40.0973223 -104.9243875
17213.00	90.730	2.050	7593.42	9773.96	9778.72	842.87	1661563.88	14562264.65	40°05'51.180"N	104°55'27.769"W	1.65	
17303.00	89.250	0.560	7593.44	9863.92	9868.70	844.92	1661565.86	14562354.59	40°05'52.069"N	104°55'27.743"W	2.33	
17392.00	89.900	0.030	7594.10	9952.91	9957.69	845.38	1661566.24	14562443.55	40°05'52.949"N	104°55'27.737"W	0.94	
17481.00	91.070	0.359	7593.35	10041.90	10046.68	844.81	1661565.60	14562532.51	40°05'53.828"N	104°55'27.744"W	1.59	
17571.00	89.900	0.358	7592.58	10131.88	10136.66	842.79	1661563.50	14562622.44	40°05'54.717"N	104°55'27.770"W	1.75	
17661.00	90.810	0.357	7592.03	10221.84	10226.59	839.44	1661560.09	14562712.34	40°05'55.606"N	104°55'27.813"W	1.22	
17750.00	89.620	0.357	7591.69	10310.78	10315.52	835.99	1661556.56	14562801.23	40°05'56.485"N	104°55'27.857"W	1.42	
17840.00	91.420	0.358	7590.88	10400.75	10405.47	833.30	1661553.80	14562891.14	40°05'57.374"N	104°55'27.892"W	2.11	
17930.00	90.020	0.357	7589.74	10490.70	10495.41	830.12	1661550.55	14562981.04	40°05'58.262"N	104°55'27.933"W	2.07	
18019.00	90.300	0.357	7589.50	10579.62	10584.30	825.82	1661546.18	14563069.89	40°05'59.141"N	104°55'27.988"W	0.43	
18109.00	90.780	0.356	7588.65	10669.50	10674.16	820.93	1661541.22	14563159.72	40°06'00.029"N	104°55'28.051"W	0.72	
18198.00	91.750	0.355	7586.68	10758.32	10762.95	815.13	1661535.35	14563248.46	40°06'00.906"N	104°55'28.125"W	1.42	LAST BHGE MWD+IFR1+MSA SURVEY
18292.00	91.750	0.355	7583.81	10852.07	10856.66	808.35	1661528.49	14563342.13	40°06'01.832"N	104°55'28.213"W	0.00	PTB (604'FNL & 171'FEL,SEC.31) 40.1005090 -104.9245035

HOLE & CASING SECTIONS - Ref Wellbore: BUDDY 7-16HZ AWB Ref Wellpath: BUDDY 7-16HZ 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]
9.625in Casing Surface	21.00	1852.00	1831.00	21.00	1822.69	0.00	0.00	-6.78	276.78

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#16 BUDDY 7-16HZ(818'FNL & 975'FEL,SEC.07)
Area	COLORADO	Well	BUDDY 7-16HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUDDY 7-16HZ AWB
Facility	SEC.07-T1N-R67W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.06-T1N-R67W	0.00	120.62	-104.41	1660624.86	14552609.66	40°04'15.737"N	104°55'39.958"W	polygon
SEC.31-T2N-R67W	0.00	0.71	-104.95	1660624.41	14552489.80	40°04'14.552"N	104°55'39.965"W	polygon
BUDDY 17-7HZ SU 3 LANDBOX	7561.00	0.00	-15.08	1660714.25	14552489.16	40°04'14.545"N	104°55'38.809"W	polygon
BUDDY 17-7HZ SU 3 RADIUS 1	7561.00	10137.61	968.23	1661688.90	14562623.50	40°05'54.726"N	104°55'26.156"W	polygon
BUDDY 17-7HZ SU 3 RADIUS 2	7561.00	800.75	976.42	1661704.70	14553290.40	40°04'22.458"N	104°55'26.055"W	polygon
BUDDY 7-16HZ BHL REV-1(600'FNL & 172'FEL,SEC.31)	7603.00	10861.41	806.82	1661526.96	14563346.87	40°06'01.879"N	104°55'28.232"W	point
BUDDY 7-16HZ BHL REV-2(600'FNL & 152'FEL,SEC.31)	7603.00	10861.41	826.82	1661546.95	14563346.89	40°06'01.879"N	104°55'27.975"W	point
BUDDY 7-16HZ HEEL REV-1(100'FNL & 94'FEL,SEC.07)	7638.00	702.39	882.43	1661610.83	14553192.00	40°04'21.486"N	104°55'27.264"W	point

WELLPATH COMPOSITION - Ref Wellbore: BUDDY 7-16HZ AWB					Ref Wellpath: BUDDY 7-16HZ AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment		Wellbore
21.00	1812.00	Custom APC_ISCWSA REV 2 MWD+IFR1 (approximation)		Custom APC ISCWSA Rev-2 MWD+IFR1 <125 - 1812>		BUDDY 7-16HZ AWB
1812.00	18198.00	Custom APC_ISCWSA REV 2 MWD+IFR1+MSA (approximation)		BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1923 - 18198>		BUDDY 7-16HZ AWB
18198.00	18292.00	Blind Drilling (std)		Projection to bit		BUDDY 7-16HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#16 BUDDY 7-16HZ(818'FNL & 975'FEL,SEC.07)
Area	COLORADO	Well	BUDDY 7-16HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	BUDDY 7-16HZ AWB
Facility	SEC.07-T1N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
125.00	0.830	236.010	125.00	FIRST SURFACE MWD+IFR1 SURVEY
1812.00	13.800	92.570	1783.79	LAST SURFACE MWD+IFR1 SURVEY
1923.00	11.910	89.680	1892.01	FIRST BHGE MWD+IFR1+MSA SURVEY
2838.00	13.753	96.436	2779.52	ENTER LANDBOX (826'FNL & 461'FEL,SEC.07) 40.0706855 -104.9255562
6992.00	1.081	346.686	6892.28	KOP
8144.00	89.310	0.470	7630.15	LANDING (105'FNL & 94'FEL,SEC.07) 40.0726638 -104.9242452
8684.00	90.071	0.136	7631.38	EXIT RADIUS HEEL (435'FSL & 84'FEL,SEC.06) 40.0741458 -104.9242066
17130.00	91.182	0.759	7594.81	ENTER RADIUS TOE (1765'FNL & 139'FEL,SEC.31) 40.0973223 -104.9243875
18198.00	91.750	355.860	7586.68	LAST BHGE MWD+IFR1+MSA SURVEY
18292.00	91.750	355.860	7583.81	PTB (604'FNL & 171'FEL,SEC.31) 40.1005090 -104.9245035