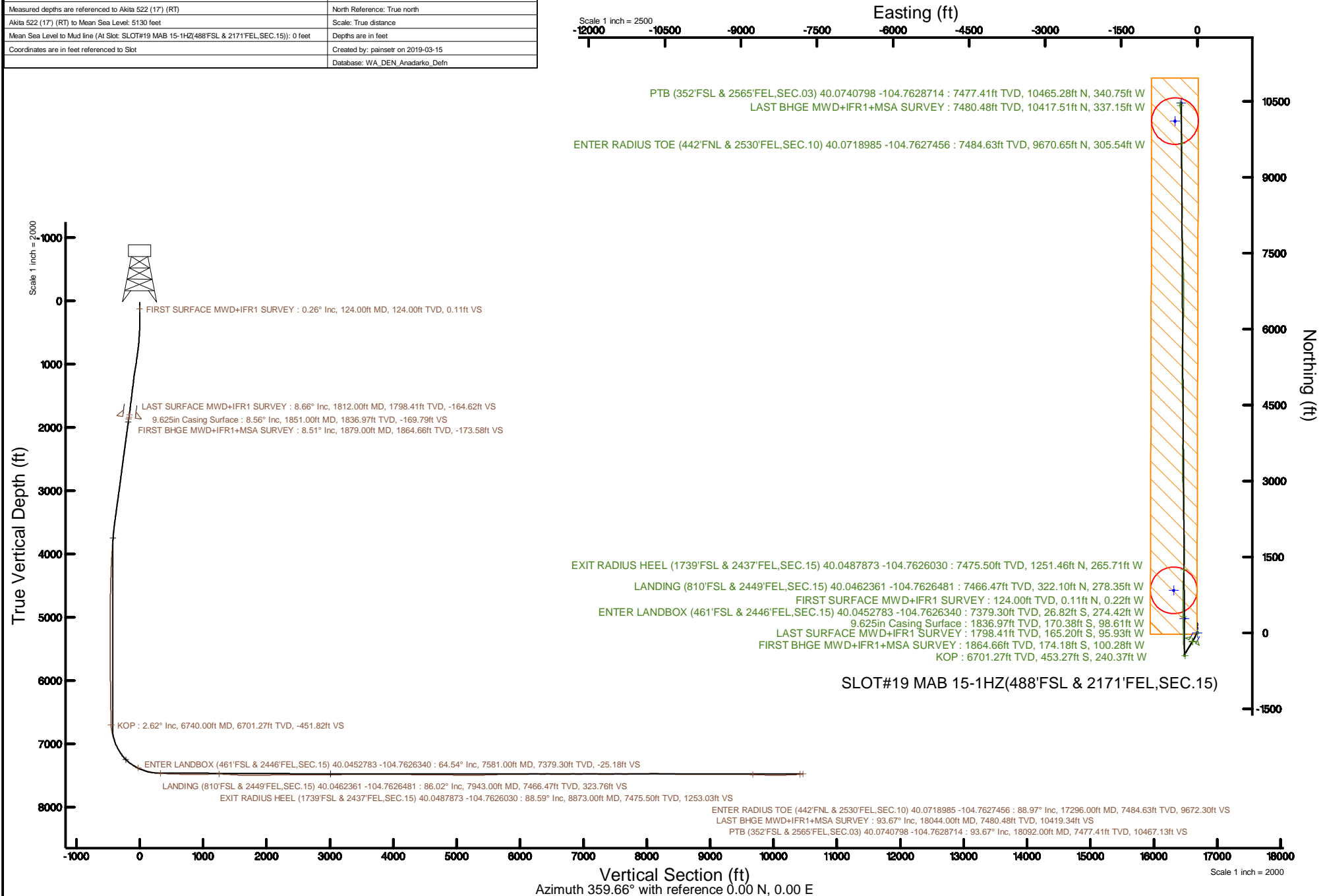


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#19 MAB 15-1HZ(488'FSL & 2171'FEL,SEC.15)
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: MAB 15-1HZ
 Facility: SEC.15-T1N-R66W Wellbore: MAB 15-1HZ PWB

Plot reference wellpath is MAB 15-1HZ PWP Rev-A.0	Grid System: NAD83 / UTM Zone 13 North, US feet
True vertical depths are referenced to Akita 522 (17) (RT)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to Akita 522 (17) (RT)	North Reference: True north
Akita 522 (17) (RT) to Mean Sea Level: 5130 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#19 MAB 15-1HZ(488'FSL & 2171'FEL,SEC.15)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2019-03-15
	Database: WA_DEN_Anadarko_Defn



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#19 MAB 15-1HZ(488'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-1HZ AWB
Facility	SEC.15-T1N-R66W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999605	Report Generated	3/15/2019 at 1:16 PM
Convergence at slot	0.16° East	Database/Source file	WA_DEN_Anadarko_Defn/MAB_15-1HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-779.42	1678.31	1707121.58	14543337.28	40°02'43.267"N	104°45'41.954"W
Facility Reference Pt			1705441.90	14544112.02	40°02'50.970"N	104°46'03.534"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Akita 522 (17') (RT) to Facility Vertical Datum	5130.00ft
Horizontal Reference Pt	Slot	Akita 522 (17') (RT) to Mean Sea Level	5130.00ft
Vertical Reference Pt	Akita 522 (17') (RT)	Akita 522 (17') (RT) to Mud Line at Slot (SLOT#19 MAB 15-1HZ (488'FSL & 2171'FEL,SEC.15))	5130.00ft
MD Reference Pt	Akita 522 (17') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.66°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#19 MAB 15-1HZ(488'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-1HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (207 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	296.820	0.00	0.00	0.00	0.00	1707121.57	14543337.28	40°02'43.267"N	104°45'41.954"W	0.00	
17.00	0.000	296.820	17.00	0.00	0.00	0.00	1707121.57	14543337.28	40°02'43.267"N	104°45'41.954"W	0.00	
124.00	0.260	296.820	124.00	0.11	0.11	-0.22	1707121.36	14543337.39	40°02'43.268"N	104°45'41.957"W	0.24	FIRST SURFACE MWD+IFR1 SURVEY
219.00	0.260	342.430	219.00	0.42	0.41	-0.47	1707121.10	14543337.69	40°02'43.271"N	104°45'41.960"W	0.21	
314.00	0.750	261.660	314.00	0.53	0.53	-1.15	1707120.42	14543337.81	40°02'43.272"N	104°45'41.969"W	0.79	
409.00	2.110	225.720	408.97	-0.77	-0.78	-3.02	1707118.56	14543336.49	40°02'43.259"N	104°45'41.993"W	1.65	
504.00	4.530	221.850	503.80	-4.76	-4.80	-6.78	1707114.81	14543332.47	40°02'43.220"N	104°45'42.041"W	2.56	
599.00	4.880	216.490	598.48	-10.77	-10.84	-11.68	1707109.92	14543326.41	40°02'43.160"N	104°45'42.104"W	0.59	
694.00	6.860	206.820	692.98	-19.06	-19.16	-16.65	1707104.99	14543318.09	40°02'43.078"N	104°45'42.168"W	2.32	
788.00	7.910	207.520	786.20	-29.77	-29.90	-22.17	1707099.49	14543307.33	40°02'42.971"N	104°45'42.239"W	1.12	
883.00	8.390	206.640	880.24	-41.72	-41.89	-28.30	1707093.40	14543295.33	40°02'42.853"N	104°45'42.318"W	0.52	
979.00	9.800	205.060	975.03	-55.35	-55.56	-34.90	1707086.84	14543281.65	40°02'42.718"N	104°45'42.403"W	1.49	
1074.00	9.840	204.710	1068.64	-70.00	-70.25	-41.72	1707080.06	14543266.94	40°02'42.573"N	104°45'42.490"W	0.08	
1169.00	9.800	202.160	1162.25	-84.83	-85.12	-48.16	1707073.66	14543252.07	40°02'42.426"N	104°45'42.573"W	0.46	
1264.00	7.690	210.330	1256.14	-97.77	-98.09	-54.42	1707067.44	14543239.08	40°02'42.298"N	104°45'42.654"W	2.57	
1360.00	7.950	207.870	1351.25	-109.14	-109.51	-60.77	1707061.13	14543227.66	40°02'42.185"N	104°45'42.735"W	0.44	
1455.00	7.950	212.710	1445.33	-120.44	-120.84	-67.39	1707054.54	14543216.31	40°02'42.073"N	104°45'42.820"W	0.70	
1549.00	8.750	211.740	1538.34	-131.94	-132.39	-74.66	1707047.30	14543204.74	40°02'41.959"N	104°45'42.914"W	0.86	
1645.00	8.170	213.670	1633.29	-143.78	-144.28	-82.28	1707039.71	14543192.84	40°02'41.841"N	104°45'43.012"W	0.67	
1739.00	8.830	214.470	1726.26	-155.24	-155.79	-90.07	1707031.96	14543181.32	40°02'41.727"N	104°45'43.112"W	0.71	
1812.00	8.660	209.280	1798.41	-164.62	-165.20	-95.93	1707026.12	14543171.89	40°02'41.634"N	104°45'43.187"W	1.11	LAST SURFACE MWD+IFR1 SURVEY
1879.00	8.510	202.360	1864.66	-173.58	-174.18	-100.28	1707021.80	14543162.90	40°02'41.546"N	104°45'43.243"W	1.56	FIRST BHGE MWD+IFR1+MSA SURVEY
1966.00	9.610	211.040	1950.58	-185.72	-186.36	-106.48	1707015.64	14543150.71	40°02'41.425"N	104°45'43.323"W	2.01	
2053.00	9.510	210.110	2036.37	-198.11	-198.80	-113.83	1707008.33	14543138.26	40°02'41.302"N	104°45'43.418"W	0.21	
2140.00	9.440	210.370	2122.19	-210.44	-211.17	-121.04	1707001.15	14543125.87	40°02'41.180"N	104°45'43.510"W	0.09	
2228.00	9.180	209.540	2209.03	-222.73	-223.50	-128.15	1706994.07	14543113.52	40°02'41.058"N	104°45'43.602"W	0.33	
2315.00	8.870	208.830	2294.95	-234.61	-235.42	-134.81	1706987.45	14543101.60	40°02'40.941"N	104°45'43.687"W	0.38	
2403.00	8.350	208.270	2381.96	-246.14	-246.99	-141.10	1706981.19	14543090.01	40°02'40.826"N	104°45'43.768"W	0.60	
2491.00	9.240	216.590	2468.92	-257.40	-258.29	-148.34	1706973.98	14543078.70	40°02'40.715"N	104°45'43.861"W	1.76	
2578.00	8.760	215.610	2554.85	-268.34	-269.29	-156.36	1706966.00	14543067.69	40°02'40.606"N	104°45'43.965"W	0.58	
2666.00	8.090	215.780	2641.90	-278.77	-279.76	-163.88	1706958.50	14543057.20	40°02'40.502"N	104°45'44.061"W	0.76	
2753.00	9.100	212.080	2727.93	-289.52	-290.55	-171.12	1706951.30	14543046.39	40°02'40.396"N	104°45'44.154"W	1.32	
2841.00	8.450	211.660	2814.90	-300.88	-301.95	-178.21	1706944.25	14543034.97	40°02'40.283"N	104°45'44.245"W	0.74	
2929.00	9.580	212.450	2901.81	-312.52	-313.64	-185.53	1706936.96	14543023.28	40°02'40.168"N	104°45'44.340"W	1.29	
3017.00	8.660	211.550	2988.69	-324.30	-325.46	-192.93	1706929.60	14543011.44	40°02'40.051"N	104°45'44.435"W	1.06	
3104.00	9.520	211.970	3074.60	-335.94	-337.15	-200.16	1706922.39	14542999.74	40°02'39.935"N	104°45'44.528"W	0.99	
3192.00	8.660	211.940	3161.49	-347.69	-348.94	-207.52	1706915.07	14542987.92	40°02'39.819"N	104°45'44.622"W	0.98	
3279.00	9.820	212.980	3247.36	-359.43	-360.72	-215.02	1706907.60	14542976.13	40°02'39.702"N	104°45'44.719"W	1.35	
3367.00	8.860	214.520	3334.20	-371.26	-372.60	-222.95	1706899.71	14542964.23	40°02'39.585"N	104°45'44.821"W	1.13	
3454.00	9.260	210.930	3420.11	-382.74	-384.13	-230.35	1706892.35	14542952.69	40°02'39.471"N	104°45'44.916"W	0.80	
3542.00	8.390	212.430	3507.07	-394.19	-395.62	-237.43	1706885.30	14542941.18	40°02'39.357"N	104°45'45.007"W	1.02	
3629.00	7.790	214.660	3593.20	-404.36	-405.83	-244.18	1706878.57	14542930.96	40°02'39.256"N	104°45'45.094"W	0.78	
3716.00	7.010	218.840	3679.48	-413.30	-414.81	-250.87	1706871.92	14542921.96	40°02'39.168"N	104°45'45.180"W	1.09	
3804.00	6.120	210.950	3766.90	-421.47	-423.02	-256.65	1706866.16	14542913.75	40°02'39.087"N	104°45'45.254"W	1.44	
3891.00	4.940	208.680	3853.50	-428.71	-430.28	-260.83	1706862.00	14542906.47	40°02'39.015"N	104°45'45.308"W	1.38	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#19 MAB 15-1HZ(488'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-1HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (207 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
3979.00	4.470	211.160	3941.20	-434.95	-436.54	-264.42	1706858.43	14542900.21	40°02'38.953"N	104°45'45.354"W	0.58	
4066.00	3.290	188.500	4028.00	-440.31	-441.91	-266.55	1706856.32	14542894.83	40°02'38.900"N	104°45'45.381"W	2.20	
4155.00	2.980	186.720	4116.87	-445.13	-446.74	-267.19	1706855.68	14542890.01	40°02'38.852"N	104°45'45.390"W	0.37	
4242.00	2.530	186.330	4203.77	-449.28	-450.89	-267.67	1706855.22	14542885.86	40°02'38.811"N	104°45'45.396"W	0.52	
4330.00	2.170	150.940	4291.70	-452.67	-454.28	-267.08	1706855.82	14542882.47	40°02'38.778"N	104°45'45.388"W	1.67	
4417.00	1.980	145.250	4378.64	-455.35	-456.95	-265.42	1706857.48	14542879.80	40°02'38.751"N	104°45'45.367"W	0.32	
4505.00	1.970	141.710	4466.59	-457.80	-459.39	-263.62	1706859.29	14542877.37	40°02'38.727"N	104°45'45.344"W	0.14	
4592.00	1.720	142.900	4553.55	-460.03	-461.60	-261.90	1706861.01	14542875.16	40°02'38.705"N	104°45'45.322"W	0.29	
4680.00	1.600	138.180	4641.51	-462.00	-463.57	-260.29	1706862.63	14542873.20	40°02'38.686"N	104°45'45.301"W	0.21	
4768.00	1.420	133.360	4729.48	-463.68	-465.24	-258.67	1706864.25	14542871.54	40°02'38.669"N	104°45'45.280"W	0.25	
4855.00	1.130	125.380	4816.46	-464.92	-466.47	-257.19	1706865.74	14542870.31	40°02'38.657"N	104°45'45.261"W	0.39	
4969.00	0.900	111.980	4930.44	-465.92	-467.46	-255.44	1706867.48	14542869.33	40°02'38.647"N	104°45'45.238"W	0.29	
5057.00	0.600	102.960	5018.43	-466.29	-467.82	-254.35	1706868.57	14542868.97	40°02'38.644"N	104°45'45.224"W	0.37	
5144.00	0.540	92.110	5105.43	-466.41	-467.94	-253.50	1706869.43	14542868.85	40°02'38.643"N	104°45'45.213"W	0.14	
5232.00	0.480	103.040	5193.42	-466.51	-468.04	-252.73	1706870.20	14542868.76	40°02'38.642"N	104°45'45.204"W	0.13	
5407.00	0.380	88.450	5368.42	-466.67	-468.19	-251.43	1706871.50	14542868.61	40°02'38.640"N	104°45'45.187"W	0.08	
5582.00	0.490	53.900	5543.41	-466.22	-467.73	-250.25	1706872.68	14542869.07	40°02'38.645"N	104°45'45.172"W	0.16	
5756.00	0.530	31.270	5717.41	-465.10	-466.60	-249.23	1706873.69	14542870.20	40°02'38.656"N	104°45'45.159"W	0.12	
5843.00	0.600	23.770	5804.40	-464.34	-465.84	-248.84	1706874.08	14542870.96	40°02'38.663"N	104°45'45.154"W	0.12	
6018.00	0.990	25.030	5979.39	-462.14	-463.63	-247.83	1706875.09	14542873.17	40°02'38.685"N	104°45'45.141"W	0.22	
6106.00	1.190	30.670	6067.37	-460.67	-462.16	-247.04	1706875.87	14542874.65	40°02'38.700"N	104°45'45.130"W	0.26	
6194.00	1.050	27.080	6155.35	-459.17	-460.66	-246.21	1706876.70	14542876.15	40°02'38.715"N	104°45'45.120"W	0.18	
6281.00	0.870	27.750	6242.34	-457.88	-459.36	-245.54	1706877.37	14542877.45	40°02'38.727"N	104°45'45.111"W	0.21	
6369.00	0.780	29.420	6330.33	-456.77	-458.25	-244.93	1706877.97	14542878.56	40°02'38.738"N	104°45'45.103"W	0.11	
6456.00	0.950	44.200	6417.32	-455.75	-457.21	-244.14	1706878.76	14542879.60	40°02'38.749"N	104°45'45.093"W	0.32	
6544.00	1.120	50.040	6505.31	-454.68	-456.14	-242.97	1706879.92	14542880.68	40°02'38.759"N	104°45'45.078"W	0.23	
6632.00	1.180	44.150	6593.29	-453.48	-454.94	-241.68	1706881.21	14542881.88	40°02'38.771"N	104°45'45.061"W	0.15	
6719.00	0.890	49.450	6680.28	-452.41	-453.86	-240.54	1706882.34	14542882.97	40°02'38.782"N	104°45'45.047"W	0.35	
6740.00†	2.622	5.204	6701.27	-451.82	-453.27	-240.37	1706882.51	14542883.55	40°02'38.788"N	104°45'45.045"W	9.90	KOP
6806.00	9.070	352.750	6766.89	-445.15	-446.60	-240.89	1706881.97	14542890.22	40°02'38.854"N	104°45'45.051"W	9.90	
6894.00	12.820	354.000	6853.27	-428.54	-430.00	-242.79	1706880.03	14542906.80	40°02'39.018"N	104°45'45.076"W	4.27	
6981.00	19.500	352.050	6936.79	-404.52	-406.00	-245.81	1706876.95	14542930.79	40°02'39.255"N	104°45'45.115"W	7.70	
7069.00	25.340	353.050	7018.10	-371.22	-372.73	-250.13	1706872.55	14542964.04	40°02'39.584"N	104°45'45.170"W	6.65	
7156.00	30.060	348.450	7095.12	-331.33	-332.87	-256.75	1706865.82	14543003.86	40°02'39.977"N	104°45'45.255"W	5.95	
7243.00	36.870	352.520	7167.66	-283.99	-285.58	-264.52	1706857.93	14543051.11	40°02'40.445"N	104°45'45.355"W	8.24	
7331.00	43.950	355.540	7234.63	-227.26	-228.89	-270.34	1706851.96	14543107.77	40°02'41.005"N	104°45'45.430"W	8.35	
7419.00	51.090	358.630	7294.03	-162.48	-164.12	-273.53	1706848.59	14543172.50	40°02'41.645"N	104°45'45.471"W	8.52	
7506.00	59.000	0.010	7343.84	-91.23	-92.88	-274.34	1706847.60	14543243.71	40°02'42.349"N	104°45'45.481"W	9.18	
7581.00†	64.543	359.845	7379.30	-25.18	-26.82	-274.42	1706847.33	14543309.73	40°02'43.002"N	104°45'45.483"W	7.39	ENTER LANDBOX (461'FSL & 2446'FEL,SEC.15) 40.0452783 -104.7626340
7593.00	65.430	359.820	7384.37	-14.31	-15.95	-274.45	1706847.27	14543320.60	40°02'43.109"N	104°45'45.483"W	7.39	
7681.00	70.760	357.730	7417.19	67.29	65.64	-276.23	1706845.28	14543402.16	40°02'43.916"N	104°45'45.506"W	6.44	
7768.00	76.690	359.140	7441.56	150.75	149.09	-278.49	1706842.80	14543485.56	40°02'44.740"N	104°45'45.535"W	6.99	
7856.00	82.290	0.430	7457.61	237.24	235.57	-278.81	1706842.25	14543572.01	40°02'45.595"N	104°45'45.539"W	6.52	
7943.00	86.020	0.180	7466.47	323.76	322.10	-278.35	1706842.48	14543658.51	40°02'46.450"N	104°45'45.533"W	4.30	LANDING (810'FSL & 2449'FEL,SEC.15) 40.0462361 -104.7626481
8031.00	88.650	359.030	7470.56	411.66	410.00	-278.95	1706841.63	14543746.37	40°02'47.319"N	104°45'45.541"W	3.26	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#19 MAB 15-1HZ(488'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-1HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (207 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
8118.00	87.990	359.780	7473.11	498.62	496.95	-279.86	1706840.50	14543833.29	40°02'48.178"N	104°45'45.553"W	1.15	
8205.00	88.160	359.080	7476.03	585.57	583.90	-280.72	1706839.40	14543920.20	40°02'49.037"N	104°45'45.564"W	0.83	
8292.00	88.710	0.210	7478.41	672.54	670.86	-281.26	1706838.63	14544007.13	40°02'49.897"N	104°45'45.571"W	1.44	
8379.00	89.450	0.110	7479.81	759.52	757.85	-281.02	1706838.64	14544094.08	40°02'50.756"N	104°45'45.567"W	0.86	
8467.00	90.650	0.090	7479.73	847.52	845.85	-280.86	1706838.56	14544182.04	40°02'51.626"N	104°45'45.566"W	1.36	
8555.00	89.790	1.640	7479.39	935.49	933.84	-279.54	1706839.65	14544270.00	40°02'52.495"N	104°45'45.548"W	2.01	
8642.00	91.180	1.920	7478.66	1022.43	1020.79	-276.83	1706842.12	14544356.92	40°02'53.355"N	104°45'45.514"W	1.63	
8729.00	91.050	1.880	7476.96	1109.34	1107.72	-273.95	1706844.77	14544443.83	40°02'54.214"N	104°45'45.477"W	0.16	
8817.00	91.070	3.860	7475.33	1197.19	1195.59	-269.54	1706848.94	14544531.68	40°02'55.082"N	104°45'45.420"W	2.25	
8873.00†	88.592	4.002	7475.50	1253.03	1251.46	-265.71	1706852.63	14544587.53	40°02'55.634"N	104°45'45.371"W	4.43	EXIT RADIUS HEEL (1739'FSL & 2437'FEL,SEC.15) 40.0487873 -104.7626030
8904.00	87.220	4.080	7476.63	1283.91	1282.36	-263.52	1706854.73	14544618.42	40°02'55.940"N	104°45'45.343"W	4.43	
8992.00	86.800	1.300	7481.22	1371.66	1370.13	-259.40	1706858.61	14544706.17	40°02'56.807"N	104°45'45.290"W	3.19	
9079.00	87.110	0.170	7485.85	1458.52	1457.00	-258.28	1706859.50	14544793.01	40°02'57.665"N	104°45'45.275"W	1.35	
9166.00	86.900	359.420	7490.39	1545.40	1543.88	-258.60	1706858.95	14544879.85	40°02'58.524"N	104°45'45.279"W	0.89	
9254.00	88.960	0.430	7493.57	1633.34	1631.82	-258.71	1706858.60	14544967.76	40°02'59.393"N	104°45'45.281"W	2.61	
9341.00	90.760	0.970	7493.78	1720.32	1718.81	-257.65	1706859.43	14545054.71	40°03'00.253"N	104°45'45.267"W	2.16	
9429.00	90.040	359.550	7493.17	1808.31	1806.80	-257.25	1706859.60	14545142.67	40°03'01.122"N	104°45'45.262"W	1.81	
9516.00	90.330	358.730	7492.89	1895.31	1893.79	-258.55	1706858.06	14545229.62	40°03'01.982"N	104°45'45.279"W	1.00	
9604.00	90.220	357.270	7492.46	1983.27	1981.73	-261.62	1706854.75	14545317.52	40°03'02.851"N	104°45'45.318"W	1.66	
9691.00	92.010	0.000	7490.77	2070.22	2068.68	-263.70	1706852.45	14545404.43	40°03'03.710"N	104°45'45.345"W	3.75	
9779.00	90.730	0.850	7488.67	2158.19	2156.65	-263.04	1706852.87	14545492.37	40°03'04.580"N	104°45'45.337"W	1.75	
9866.00	90.120	359.720	7488.02	2245.18	2243.65	-262.61	1706853.07	14545579.33	40°03'05.439"N	104°45'45.331"W	1.48	
9953.00	90.730	359.110	7487.38	2332.17	2330.64	-263.50	1706851.94	14545666.28	40°03'06.299"N	104°45'45.342"W	0.99	
10041.00	89.850	0.240	7486.93	2420.17	2418.63	-264.00	1706851.21	14545754.24	40°03'07.169"N	104°45'45.349"W	1.63	
10128.00	89.520	359.520	7487.41	2507.17	2505.63	-264.18	1706850.80	14545841.20	40°03'08.028"N	104°45'45.351"W	0.91	
10216.00	90.270	359.430	7487.57	2595.17	2593.63	-264.99	1706849.75	14545929.16	40°03'08.898"N	104°45'45.362"W	0.86	
10303.00	90.380	358.500	7487.08	2682.16	2680.61	-266.56	1706847.95	14546016.11	40°03'09.757"N	104°45'45.382"W	1.08	
10391.00	90.190	356.500	7486.64	2770.09	2768.52	-270.40	1706843.88	14546103.97	40°03'10.626"N	104°45'45.431"W	2.28	
10478.00	90.390	355.620	7486.20	2856.92	2855.31	-276.38	1706837.67	14546190.71	40°03'11.484"N	104°45'45.508"W	1.04	
10566.00	89.780	356.100	7486.07	2944.72	2943.08	-282.73	1706831.09	14546278.43	40°03'12.351"N	104°45'45.590"W	0.88	
10654.00	89.780	358.030	7486.41	3032.63	3030.96	-287.23	1706826.35	14546366.26	40°03'13.220"N	104°45'45.648"W	2.19	
10741.00	91.010	0.190	7485.81	3119.61	3117.94	-288.59	1706824.76	14546453.20	40°03'14.079"N	104°45'45.665"W	2.86	
10829.00	91.900	359.990	7483.57	3207.58	3205.91	-288.45	1706824.67	14546541.14	40°03'14.949"N	104°45'45.663"W	1.04	
10916.00	90.320	0.400	7481.89	3294.56	3292.89	-288.15	1706824.73	14546628.09	40°03'15.808"N	104°45'45.660"W	1.88	
11004.00	91.330	359.860	7480.62	3382.55	3380.88	-287.95	1706824.69	14546716.04	40°03'16.678"N	104°45'45.657"W	1.30	
11091.00	89.980	359.170	7479.63	3469.54	3467.87	-288.69	1706823.72	14546802.99	40°03'17.537"N	104°45'45.666"W	1.74	
11179.00	88.500	0.950	7480.79	3557.52	3555.86	-288.60	1706823.58	14546890.94	40°03'18.407"N	104°45'45.665"W	2.63	
11266.00	89.590	1.240	7482.24	3644.48	3642.83	-286.93	1706825.01	14546977.88	40°03'19.266"N	104°45'45.644"W	1.30	
11394.00	90.790	1.480	7481.82	3772.42	3770.79	-283.90	1706827.70	14547105.80	40°03'20.531"N	104°45'45.605"W	0.96	
11486.00	89.700	2.270	7481.42	3864.35	3862.74	-280.89	1706830.47	14547197.72	40°03'21.439"N	104°45'45.566"W	1.46	
11577.00	90.720	0.390	7481.09	3955.30	3953.71	-278.77	1706832.34	14547288.66	40°03'22.338"N	104°45'45.539"W	2.35	
11668.00	89.040	359.230	7481.28	4046.30	4044.70	-279.08	1706831.79	14547379.62	40°03'23.238"N	104°45'45.543"W	2.24	
11760.00	90.150	358.980	7481.93	4138.29	4136.69	-280.51	1706830.11	14547471.56	40°03'24.147"N	104°45'45.561"W	1.24	
11847.00	88.650	359.980	7482.84	4225.28	4223.67	-281.30	1706829.09	14547558.51	40°03'25.006"N	104°45'45.572"W	2.07	
11935.00	88.610	358.860	7484.95	4313.26	4311.64	-282.19	1706827.96	14547646.44	40°03'25.876"N	104°45'45.583"W	1.27	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#19 MAB 15-1HZ(488'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-1HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (207 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
12023.00	89.100	358.940	7486.71	4401.23	4399.61	-283.88	1706826.04	14547734.37	40°03'26.745"N	104°45'45.605"W	0.56	
12110.00	89.990	358.970	7487.40	4488.22	4486.59	-285.47	1706824.22	14547821.31	40°03'27.605"N	104°45'45.625"W	1.02	
12197.00	91.020	357.890	7486.63	4575.19	4573.55	-287.85	1706821.60	14547908.23	40°03'28.464"N	104°45'45.656"W	1.72	
12285.00	89.530	359.830	7486.21	4663.18	4661.53	-289.60	1706819.62	14547996.17	40°03'29.333"N	104°45'45.678"W	2.78	
12373.00	89.440	358.840	7487.00	4751.17	4749.52	-290.62	1706818.36	14548084.12	40°03'30.203"N	104°45'45.692"W	1.13	
12460.00	89.320	356.900	7487.94	4838.12	4836.45	-293.86	1706814.90	14548171.01	40°03'31.062"N	104°45'45.733"W	2.23	
12547.00	88.110	358.780	7489.89	4925.05	4923.36	-297.13	1706811.39	14548257.87	40°03'31.921"N	104°45'45.775"W	2.57	
12635.00	88.210	359.620	7492.72	5013.00	5011.30	-298.36	1706809.92	14548345.78	40°03'32.790"N	104°45'45.791"W	0.96	
12723.00	89.450	0.320	7494.51	5100.98	5099.28	-298.41	1706809.64	14548433.72	40°03'33.659"N	104°45'45.792"W	1.62	
12811.00	90.280	0.750	7494.72	5188.97	5187.28	-297.59	1706810.23	14548521.69	40°03'34.529"N	104°45'45.781"W	1.06	
12898.00	91.090	0.630	7493.68	5275.95	5274.26	-296.54	1706811.04	14548608.64	40°03'35.388"N	104°45'45.768"W	0.94	
12986.00	90.850	0.940	7492.19	5363.92	5362.24	-295.33	1706812.01	14548696.59	40°03'36.258"N	104°45'45.752"W	0.45	
13073.00	91.380	0.270	7490.50	5450.89	5449.22	-294.42	1706812.70	14548783.53	40°03'37.117"N	104°45'45.740"W	0.98	
13161.00	92.190	359.150	7487.76	5538.84	5537.18	-294.86	1706812.02	14548871.45	40°03'37.987"N	104°45'45.746"W	1.57	
13248.00	92.060	0.530	7484.53	5625.78	5624.11	-295.10	1706811.54	14548958.35	40°03'38.846"N	104°45'45.749"W	1.59	
13336.00	91.650	2.130	7481.68	5713.69	5712.04	-293.06	1706813.35	14549046.25	40°03'39.715"N	104°45'45.723"W	1.88	
13423.00	89.520	1.730	7480.79	5800.61	5798.98	-290.13	1706816.04	14549133.16	40°03'40.574"N	104°45'45.685"W	2.49	
13510.00	90.440	2.160	7480.82	5887.54	5885.93	-287.18	1706818.76	14549220.09	40°03'41.433"N	104°45'45.647"W	1.17	
13598.00	91.550	1.800	7479.30	5975.46	5973.86	-284.14	1706821.57	14549307.99	40°03'42.302"N	104°45'45.608"W	1.33	
13685.00	89.780	1.590	7478.29	6062.39	6060.82	-281.57	1706823.91	14549394.92	40°03'43.161"N	104°45'45.575"W	2.05	
13773.00	91.390	1.610	7477.39	6150.33	6148.77	-279.11	1706826.13	14549482.85	40°03'44.031"N	104°45'45.544"W	1.83	
13860.00	89.280	1.780	7476.88	6237.27	6235.73	-276.54	1706828.47	14549569.77	40°03'44.890"N	104°45'45.511"W	2.43	
13948.00	89.720	0.610	7477.65	6325.24	6323.70	-274.70	1706830.07	14549657.72	40°03'45.759"N	104°45'45.487"W	1.42	
14035.00	90.550	1.720	7477.44	6412.20	6410.68	-272.93	1706831.60	14549744.67	40°03'46.619"N	104°45'45.464"W	1.59	
14123.00	88.730	0.180	7478.00	6500.17	6498.66	-271.47	1706832.82	14549832.62	40°03'47.488"N	104°45'45.446"W	2.71	
14210.00	89.500	0.350	7479.34	6587.16	6585.65	-271.07	1706832.99	14549919.57	40°03'48.348"N	104°45'45.440"W	0.91	
14297.00	90.420	0.570	7479.40	6674.15	6672.65	-270.37	1706833.46	14550006.54	40°03'49.208"N	104°45'45.431"W	1.09	
14385.00	91.350	359.760	7478.04	6762.13	6760.64	-270.12	1706833.48	14550094.49	40°03'50.077"N	104°45'45.428"W	1.40	
14473.00	89.560	359.080	7477.34	6850.12	6848.62	-271.01	1706832.35	14550182.44	40°03'50.947"N	104°45'45.440"W	2.18	
14560.00	90.040	358.700	7477.65	6937.12	6935.61	-272.69	1706830.43	14550269.38	40°03'51.806"N	104°45'45.461"W	0.70	
14647.00	90.810	358.750	7477.00	7024.10	7022.58	-274.63	1706828.27	14550356.32	40°03'52.666"N	104°45'45.486"W	0.89	
14735.00	90.240	358.690	7476.19	7112.09	7110.56	-276.60	1706826.07	14550444.25	40°03'53.535"N	104°45'45.511"W	0.65	
14822.00	88.870	358.660	7476.87	7199.07	7197.53	-278.61	1706823.82	14550531.18	40°03'54.395"N	104°45'45.537"W	1.58	
14911.00	89.210	358.140	7478.36	7288.03	7286.48	-281.09	1706821.10	14550620.09	40°03'55.274"N	104°45'45.569"W	0.70	
14998.00	89.870	358.220	7479.06	7375.00	7373.43	-283.86	1706818.11	14550707.00	40°03'56.133"N	104°45'45.605"W	0.76	
15085.00	91.500	358.870	7478.02	7461.98	7460.40	-286.06	1706815.66	14550793.93	40°03'56.992"N	104°45'45.633"W	2.02	
15173.00	89.680	358.790	7477.11	7549.96	7548.37	-287.86	1706813.63	14550881.86	40°03'57.862"N	104°45'45.656"W	2.07	
15260.00	89.680	358.010	7477.60	7636.93	7635.33	-290.29	1706810.97	14550968.78	40°03'58.721"N	104°45'45.688"W	0.90	
15348.00	90.670	357.390	7477.33	7724.88	7723.26	-293.82	1706807.21	14551056.66	40°03'59.590"N	104°45'45.733"W	1.33	
15435.00	90.610	358.130	7476.36	7811.83	7810.19	-297.22	1706803.58	14551143.55	40°04'00.449"N	104°45'45.777"W	0.85	
15523.00	91.910	358.310	7474.42	7899.78	7898.12	-299.95	1706800.61	14551231.44	40°04'01.318"N	104°45'45.812"W	1.49	
15610.00	91.380	358.230	7471.93	7986.72	7985.05	-302.58	1706797.75	14551318.32	40°04'02.177"N	104°45'45.846"W	0.62	
15698.00	90.730	0.330	7470.31	8074.69	8073.02	-303.69	1706796.41	14551406.26	40°04'03.046"N	104°45'45.860"W	2.50	
15785.00	88.980	1.490	7470.53	8161.67	8160.00	-302.30	1706797.56	14551493.21	40°04'03.906"N	104°45'45.842"W	2.41	
15873.00	88.780	1.080	7472.25	8249.61	8247.96	-300.33	1706799.30	14551581.14	40°04'04.775"N	104°45'45.817"W	0.52	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#19 MAB 15-1HZ(488'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-1HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (207 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
15960.00	88.240	359.750	7474.51	8336.57	8334.93	-299.70	1706799.69	14551668.07	40°04'05.635"N	104°45'45.809"W	1.65	
16047.00	88.590	359.340	7476.91	8423.54	8421.89	-300.39	1706798.77	14551755.00	40°04'06.494"N	104°45'45.818"W	0.62	
16135.00	88.640	358.950	7479.04	8511.51	8509.86	-301.70	1706797.22	14551842.93	40°04'07.363"N	104°45'45.835"W	0.45	
16222.00	88.950	359.040	7480.87	8598.49	8596.83	-303.23	1706795.47	14551929.85	40°04'08.223"N	104°45'45.854"W	0.37	
16310.00	89.320	358.810	7482.20	8686.47	8684.80	-304.88	1706793.58	14552017.79	40°04'09.092"N	104°45'45.875"W	0.50	
16398.00	90.840	359.700	7482.08	8774.46	8772.79	-306.02	1706792.20	14552105.74	40°04'09.962"N	104°45'45.890"W	2.00	
16485.00	92.050	359.850	7479.88	8861.43	8859.76	-306.37	1706791.63	14552192.67	40°04'10.821"N	104°45'45.895"W	1.40	
16572.00	90.210	0.340	7478.17	8948.41	8946.74	-306.22	1706791.54	14552279.62	40°04'11.681"N	104°45'45.893"W	2.19	
16659.00	89.580	0.180	7478.33	9035.41	9033.74	-305.83	1706791.70	14552366.58	40°04'12.540"N	104°45'45.888"W	0.75	
16747.00	90.820	359.750	7478.02	9123.40	9121.73	-305.88	1706791.41	14552454.54	40°04'13.410"N	104°45'45.888"W	1.49	
16834.00	88.750	0.090	7478.35	9210.40	9208.73	-306.00	1706791.06	14552541.50	40°04'14.270"N	104°45'45.890"W	2.41	
16922.00	89.320	0.600	7479.83	9298.38	9296.71	-305.47	1706791.35	14552629.46	40°04'15.139"N	104°45'45.883"W	0.87	
17009.00	90.840	359.980	7479.71	9385.37	9383.71	-305.03	1706791.56	14552716.42	40°04'15.999"N	104°45'45.878"W	1.89	
17097.00	88.390	360.000	7480.30	9473.36	9471.70	-305.05	1706791.31	14552804.37	40°04'16.868"N	104°45'45.878"W	2.78	
17184.00	88.500	0.060	7482.66	9560.32	9558.67	-305.00	1706791.12	14552891.31	40°04'17.728"N	104°45'45.877"W	0.14	
17272.00	89.380	359.570	7484.29	9648.31	9646.65	-305.29	1706790.60	14552979.25	40°04'18.597"N	104°45'45.881"W	1.14	
17296.00†	88.971	359.237	7484.63	9672.30	9670.65	-305.54	1706790.29	14553003.24	40°04'18.834"N	104°45'45.884"W	2.20	ENTER RADIUS TOE (442'FNL & 2530'FEL,SEC.10) 40.0718985 -104.7627456
17360.00	87.880	358.350	7486.39	9736.27	9734.61	-306.88	1706788.77	14553067.17	40°04'19.467"N	104°45'45.901"W	2.20	
17447.00	88.130	358.500	7489.42	9823.20	9821.52	-309.27	1706786.15	14553154.04	40°04'20.325"N	104°45'45.932"W	0.34	
17534.00	88.710	357.570	7491.82	9910.13	9908.44	-312.25	1706782.94	14553240.92	40°04'21.184"N	104°45'45.971"W	1.26	
17622.00	89.550	357.500	7493.15	9998.06	9996.34	-316.04	1706778.92	14553328.78	40°04'22.053"N	104°45'46.019"W	0.96	
17709.00	90.700	358.120	7492.96	10085.01	10083.28	-319.36	1706775.36	14553415.67	40°04'22.912"N	104°45'46.062"W	1.50	
17797.00	91.420	357.700	7491.34	10172.95	10171.20	-322.57	1706771.92	14553503.55	40°04'23.781"N	104°45'46.103"W	0.95	
17884.00	92.190	356.410	7488.60	10259.82	10258.04	-327.04	1706767.22	14553590.34	40°04'24.639"N	104°45'46.161"W	1.73	
17972.00	92.960	356.650	7484.64	10347.60	10345.79	-332.36	1706761.67	14553678.04	40°04'25.506"N	104°45'46.229"W	0.92	
18044.00	93.670	355.700	7480.48	10419.34	10417.51	-337.15	1706756.68	14553749.72	40°04'26.215"N	104°45'46.291"W	1.65	LAST BHGE MWD+IFR1+MSA SURVEY
18092.00	93.670	355.700	7477.41	10467.13	10465.28	-340.75	1706752.97	14553797.46	40°04'26.687"N	104°45'46.337"W	0.00	PTB (352'FSL & 2565'FEL,SEC.03) 40.0740798 -104.7628714

HOLE & CASING SECTIONS - Ref Wellbore: MAB 15-1HZ AWB Ref Wellpath: MAB 15-1HZ 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	17.00	1851.00	1834.00	17.00	1836.97	0.00	0.00	-170.38	-98.61

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#19 MAB 15-1HZ(488'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-1HZ AWB
Facility	SEC.15-T1N-R66W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.10-T1N-R66W	34.00	644.55	-1679.28	1705441.24	14543977.08	40°02'49.636"N	104°46'03.547"W	polygon
SEC.15-T1N-R66W	34.00	644.55	-1679.28	1705441.24	14543977.08	40°02'49.636"N	104°46'03.547"W	polygon
MAB 15-1HZ HEEL REV-1(770'FSL & 2430'FEL,SEC.15)	7460.00	282.71	-256.77	1706864.15	14543619.19	40°02'46.061"N	104°45'45.256"W	point
MAB 15-1HZ BHL REV-1(355'FSL & 2542'FEL,SEC.03)	7474.00	10467.55	-317.68	1706776.02	14553799.79	40°04'26.710"N	104°45'46.040"W	point
MAB 15-1HZ LANDBOX	7474.00	0.00	0.00	1707121.57	14543337.28	40°02'43.267"N	104°45'41.954"W	polygon
MAB 15-1HZ RADIUS 1	7474.00	10111.65	-441.40	1706653.30	14553443.70	40°04'23.193"N	104°45'47.632"W	polygon
MAB 15-1HZ RADIUS 2	7474.00	838.80	-466.32	1706653.20	14544174.50	40°02'51.556"N	104°45'47.950"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: MAB 15-1HZ AWB Ref Wellpath: MAB 15-1HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	1812.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <124 - 1812>	MAB 15-1HZ AWB
1812.00	18044.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1879 - 18044>	MAB 15-1HZ AWB
18044.00	18092.00	Blind Drilling (std)	Projection to bit	MAB 15-1HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#19 MAB 15-1HZ(488'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-1HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-1HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
124.00	0.260	296.820	124.00	FIRST SURFACE MWD+IFR1 SURVEY
1812.00	8.660	209.280	1798.41	LAST SURFACE MWD+IFR1 SURVEY
1879.00	8.510	202.360	1864.66	FIRST BHGE MWD+IFR1+MSA SURVEY
6740.00	2.622	5.204	6701.27	KOP
7581.00	64.543	359.845	7379.30	ENTER LANDBOX (461'FSL & 2446'FEL,SEC.15) 40.0452783 -104.7626340
7943.00	86.020	0.180	7466.47	LANDING (810'FSL & 2449'FEL,SEC.15) 40.0462361 -104.7626481
8873.00	88.592	4.002	7475.50	EXIT RADIUS HEEL (1739'FSL & 2437'FEL,SEC.15) 40.0487873 -104.7626030
17296.00	88.971	359.237	7484.63	ENTER RADIUS TOE (442'FNL & 2530'FEL,SEC.10) 40.0718985 -104.7627456
18044.00	93.670	355.700	7480.48	LAST BHGE MWD+IFR1+MSA SURVEY
18092.00	93.670	355.700	7477.41	PTB (352'FSL & 2565'FEL,SEC.03) 40.0740798 -104.7628714