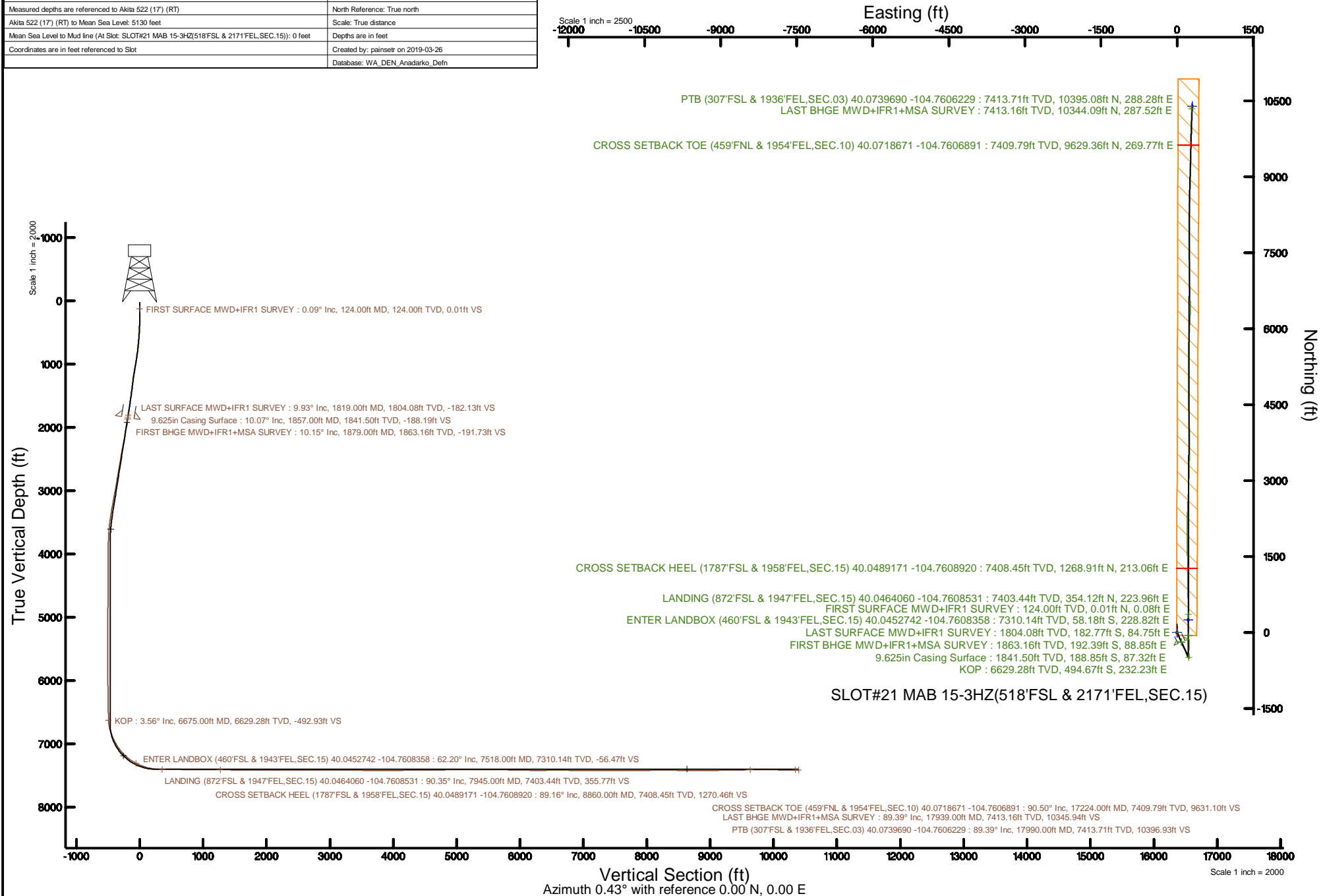


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#21 MAB 15-3HZ(518'FSL & 2171'FEL,SEC.15)
Field: WELD COUNTY (UTM/TRUE NORTH) Well: MAB 15-3HZ
Facility: SEC.15-T1N-R66W Wellbore: MAB 15-3HZ PWB

Plot reference wellpath is MAB 15-3HZ PWP Rev-B.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#21 MAB 15-3HZ(518'FSL & 2171'FEL,SEC.15)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2019-03-26
	Database: WA_DEN_Anadarko_Defn



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 MAB 15-3HZ(518'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-3HZ 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	3/26/2019 at 7:35 AM
Convergence at slot	0.16° East	Database/Source file	WA_DEN_Anadarko_Defn/MAB_15-3HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-749.57	1678.54	1707121.73	14543367.12	40°02'43.562"N	104°45'41.951"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#21 MAB 15-3HZ (518'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	0.43°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 MAB 15-3HZ(518'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-3HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (209 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	85.530	0.00	0.00	0.00	0.00	1707121.73	14543367.12	40°02'43.562"N	104°45'41.951"W	0.00	
17.00	0.000	85.530	17.00	0.00	0.00	0.00	1707121.73	14543367.12	40°02'43.562"N	104°45'41.951"W	0.00	
124.00	0.090	85.530	124.00	0.01	0.01	0.08	1707121.81	14543367.13	40°02'43.562"N	104°45'41.950"W	0.08	FIRST SURFACE MWD+IFR1 SURVEY
219.00	0.400	26.030	219.00	0.31	0.31	0.30	1707122.03	14543367.43	40°02'43.565"N	104°45'41.947"W	0.38	
314.00	0.970	155.490	313.99	-0.12	-0.12	0.78	1707122.51	14543367.00	40°02'43.561"N	104°45'41.941"W	1.33	
409.00	2.720	156.630	408.94	-2.91	-2.92	2.01	1707123.75	14543364.20	40°02'43.533"N	104°45'41.925"W	1.84	
504.00	4.260	155.310	503.76	-8.17	-8.20	4.38	1707126.13	14543358.94	40°02'43.481"N	104°45'41.895"W	1.62	
599.00	4.790	157.690	598.47	-15.02	-15.08	7.36	1707129.12	14543352.07	40°02'43.413"N	104°45'41.856"W	0.59	
694.00	6.990	153.470	692.96	-23.83	-23.92	11.45	1707133.23	14543343.24	40°02'43.326"N	104°45'41.804"W	2.36	
788.00	7.340	151.270	786.23	-34.17	-34.30	16.89	1707138.70	14543332.88	40°02'43.223"N	104°45'41.734"W	0.47	
883.00	8.660	154.080	880.30	-45.88	-46.06	22.93	1707144.77	14543321.15	40°02'43.107"N	104°45'41.656"W	1.45	
979.00	10.200	159.530	975.00	-60.30	-60.52	29.06	1707150.94	14543306.70	40°02'42.964"N	104°45'41.577"W	1.85	
1074.00	10.410	155.930	1068.47	-75.97	-76.24	35.51	1707157.42	14543291.01	40°02'42.809"N	104°45'41.494"W	0.71	
1169.00	10.500	158.040	1161.89	-91.79	-92.10	42.24	1707164.20	14543275.17	40°02'42.652"N	104°45'41.408"W	0.41	
1264.00	7.950	152.240	1255.66	-105.58	-105.95	48.54	1707170.53	14543261.35	40°02'42.515"N	104°45'41.327"W	2.85	
1360.00	8.130	149.950	1350.72	-117.28	-117.70	55.03	1707177.05	14543249.62	40°02'42.399"N	104°45'41.243"W	0.38	
1455.00	8.480	154.700	1444.72	-129.38	-129.84	61.39	1707183.44	14543237.49	40°02'42.279"N	104°45'41.162"W	0.81	
1549.00	8.700	157.160	1537.67	-142.16	-142.66	67.11	1707189.19	14543224.70	40°02'42.152"N	104°45'41.088"W	0.46	
1645.00	9.490	157.780	1632.46	-156.13	-156.68	72.92	1707195.04	14543210.70	40°02'42.014"N	104°45'41.013"W	0.83	
1739.00	9.270	153.560	1725.20	-170.04	-170.63	79.22	1707201.38	14543196.77	40°02'41.876"N	104°45'40.932"W	0.77	
1819.00	9.930	157.340	1804.08	-182.13	-182.77	84.75	1707206.93	14543184.65	40°02'41.756"N	104°45'40.861"W	1.14	LAST SURFACE MWD+IFR1 SURVEY
1879.00	10.150	156.530	1863.16	-191.73	-192.39	88.85	1707211.06	14543175.05	40°02'41.661"N	104°45'40.809"W	0.44	FIRST BHGE MWD+IFR1+MSA SURVEY
1966.00	10.260	156.590	1948.79	-205.82	-206.53	94.98	1707217.22	14543160.93	40°02'41.521"N	104°45'40.730"W	0.13	
2054.00	9.870	156.860	2035.43	-219.90	-220.66	101.06	1707223.34	14543146.82	40°02'41.381"N	104°45'40.652"W	0.45	
2140.00	10.760	156.290	2120.04	-233.99	-234.79	107.18	1707229.50	14543132.71	40°02'41.242"N	104°45'40.573"W	1.04	
2228.00	10.420	154.120	2206.54	-248.62	-249.47	113.96	1707236.31	14543118.06	40°02'41.097"N	104°45'40.486"W	0.60	
2315.00	11.720	159.260	2291.92	-263.91	-264.81	120.52	1707242.91	14543102.74	40°02'40.945"N	104°45'40.401"W	1.87	
2403.00	11.270	157.780	2378.16	-280.18	-281.13	126.94	1707249.37	14543086.44	40°02'40.784"N	104°45'40.319"W	0.61	
2491.00	10.810	156.460	2464.53	-295.66	-296.66	133.49	1707255.96	14543070.94	40°02'40.630"N	104°45'40.235"W	0.60	
2578.00	10.330	155.170	2550.05	-310.17	-311.22	140.02	1707262.53	14543056.40	40°02'40.486"N	104°45'40.151"W	0.62	
2666.00	10.490	152.020	2636.61	-324.35	-325.45	147.09	1707269.63	14543042.19	40°02'40.346"N	104°45'40.060"W	0.67	
2753.00	11.520	157.920	2722.01	-339.34	-340.50	154.08	1707276.65	14543027.17	40°02'40.197"N	104°45'39.970"W	1.75	
2841.00	10.810	158.160	2808.34	-355.10	-356.30	160.45	1707283.07	14543011.39	40°02'40.041"N	104°45'39.888"W	0.81	
2930.00	9.710	158.010	2895.92	-369.76	-371.01	166.36	1707289.02	14542996.71	40°02'39.896"N	104°45'39.812"W	1.24	
3017.00	10.860	161.300	2981.52	-384.29	-385.57	171.74	1707294.43	14542982.16	40°02'39.752"N	104°45'39.743"W	1.48	
3105.00	11.870	159.450	3067.79	-400.57	-401.90	177.58	1707300.31	14542965.86	40°02'39.590"N	104°45'39.668"W	1.22	
3192.00	10.990	159.280	3153.07	-416.66	-418.04	183.65	1707306.42	14542949.74	40°02'39.431"N	104°45'39.590"W	1.01	
3279.00	10.610	159.040	3238.53	-431.85	-433.27	189.45	1707312.26	14542934.53	40°02'39.280"N	104°45'39.515"W	0.44	
3367.00	9.870	159.370	3325.12	-446.43	-447.90	195.00	1707317.85	14542919.93	40°02'39.136"N	104°45'39.444"W	0.84	
3454.00	9.130	159.430	3410.93	-459.84	-461.34	200.06	1707322.94	14542906.51	40°02'39.003"N	104°45'39.379"W	0.85	
3542.00	7.650	157.450	3497.99	-471.75	-473.28	204.76	1707327.67	14542894.58	40°02'38.885"N	104°45'39.318"W	1.71	
3629.00	5.910	152.990	3584.37	-481.06	-482.62	209.01	1707331.95	14542885.25	40°02'38.793"N	104°45'39.264"W	2.09	
3717.00	4.570	151.990	3672.00	-488.16	-489.76	212.72	1707335.67	14542878.13	40°02'38.722"N	104°45'39.216"W	1.53	
3804.00	2.870	150.390	3758.82	-493.09	-494.71	215.42	1707338.38	14542873.19	40°02'38.673"N	104°45'39.181"W	1.96	
3891.00	1.170	109.460	3845.76	-495.27	-496.90	217.33	1707340.30	14542871.00	40°02'38.652"N	104°45'39.157"W	2.45	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 MAB 15-3HZ(518'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-3HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (209 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	0.750	105.420	3933.75	-495.71	-497.35	218.74	1707341.71	14542870.56	40°02'38.647"N	104°45'39.139"W	0.48	
4066.00	0.730	111.150	4020.74	-496.05	-497.70	219.80	1707342.77	14542870.21	40°02'38.644"N	104°45'39.125"W	0.09	
4155.00	0.670	113.450	4109.74	-496.46	-498.11	220.81	1707343.78	14542869.80	40°02'38.640"N	104°45'39.112"W	0.07	
4242.00	0.420	90.910	4196.73	-496.66	-498.32	221.59	1707344.57	14542869.59	40°02'38.637"N	104°45'39.102"W	0.37	
4330.00	0.600	111.030	4284.73	-496.83	-498.49	222.35	1707345.32	14542869.42	40°02'38.636"N	104°45'39.092"W	0.29	
4418.00	0.790	113.550	4372.72	-497.23	-498.90	223.33	1707346.31	14542869.02	40°02'38.632"N	104°45'39.079"W	0.22	
4505.00	0.880	119.570	4459.71	-497.79	-499.47	224.46	1707347.44	14542868.45	40°02'38.626"N	104°45'39.065"W	0.14	
4592.00	0.990	109.540	4546.70	-498.36	-500.05	225.75	1707348.73	14542867.88	40°02'38.620"N	104°45'39.048"W	0.23	
4680.00	0.930	117.380	4634.69	-498.93	-500.63	227.10	1707350.08	14542867.30	40°02'38.615"N	104°45'39.031"W	0.16	
4855.00	1.140	146.240	4809.66	-501.01	-502.73	229.33	1707352.31	14542865.20	40°02'38.594"N	104°45'39.002"W	0.32	
4971.00	1.010	136.670	4925.64	-502.71	-504.44	230.67	1707353.66	14542863.50	40°02'38.577"N	104°45'38.985"W	0.19	
5059.00	0.960	132.590	5013.63	-503.76	-505.50	231.75	1707354.74	14542862.45	40°02'38.567"N	104°45'38.971"W	0.10	
5146.00	1.010	119.520	5100.62	-504.62	-506.37	232.95	1707355.94	14542861.58	40°02'38.558"N	104°45'38.956"W	0.26	
5234.00	0.990	121.590	5188.60	-505.40	-507.15	234.28	1707357.27	14542860.80	40°02'38.550"N	104°45'38.939"W	0.05	
5321.00	1.090	106.770	5275.59	-506.02	-507.78	235.71	1707358.70	14542860.17	40°02'38.544"N	104°45'38.920"W	0.33	
5409.00	1.010	108.430	5363.58	-506.49	-508.27	237.25	1707360.24	14542859.69	40°02'38.539"N	104°45'38.901"W	0.10	
5496.00	0.460	241.100	5450.57	-506.90	-508.68	237.67	1707360.66	14542859.28	40°02'38.535"N	104°45'38.895"W	1.57	
5584.00	0.360	155.600	5538.57	-507.32	-509.10	237.47	1707360.47	14542858.86	40°02'38.531"N	104°45'38.898"W	0.64	
5671.00	1.710	277.110	5625.56	-507.42	-509.19	236.30	1707359.29	14542858.77	40°02'38.530"N	104°45'38.913"W	2.21	
5758.00	1.620	287.330	5712.52	-506.91	-508.67	233.83	1707356.83	14542859.29	40°02'38.535"N	104°45'38.944"W	0.36	
5845.00	1.460	303.120	5799.49	-505.96	-507.69	231.73	1707354.73	14542860.25	40°02'38.545"N	104°45'38.971"W	0.52	
5933.00	1.330	308.020	5887.46	-504.73	-506.45	229.99	1707352.98	14542861.49	40°02'38.557"N	104°45'38.994"W	0.20	
6020.00	1.240	323.130	5974.44	-503.36	-505.08	228.63	1707351.62	14542862.86	40°02'38.571"N	104°45'39.011"W	0.40	
6108.00	1.330	332.740	6062.42	-501.70	-503.41	227.59	1707350.57	14542864.53	40°02'38.587"N	104°45'39.025"W	0.26	
6196.00	1.270	343.370	6150.40	-499.86	-501.57	226.84	1707349.82	14542866.37	40°02'38.605"N	104°45'39.034"W	0.28	
6283.00	1.420	11.020	6237.37	-497.88	-499.58	226.77	1707349.75	14542868.35	40°02'38.625"N	104°45'39.035"W	0.76	
6371.00	0.840	55.230	6325.36	-496.44	-498.14	227.51	1707350.48	14542869.79	40°02'38.639"N	104°45'39.026"W	1.14	
6458.00	0.970	52.120	6412.35	-495.62	-497.33	228.62	1707351.58	14542870.60	40°02'38.647"N	104°45'39.011"W	0.16	
6546.00	0.970	62.230	6500.33	-494.80	-496.52	229.86	1707352.83	14542871.41	40°02'38.655"N	104°45'38.995"W	0.19	
6634.00	1.260	79.020	6588.32	-494.26	-495.99	231.47	1707354.43	14542871.95	40°02'38.660"N	104°45'38.975"W	0.49	
6675.00†	3.561	14.264	6629.28	-492.93	-494.67	232.23	1707355.19	14542873.27	40°02'38.674"N	104°45'38.965"W	7.88	KOP
6721.00	7.070	3.820	6675.08	-488.72	-490.46	232.77	1707355.72	14542877.48	40°02'38.715"N	104°45'38.958"W	7.88	
6808.00	14.590	1.050	6760.47	-472.39	-474.14	233.33	1707356.23	14542893.80	40°02'38.876"N	104°45'38.951"W	8.66	
6896.00	20.060	359.170	6844.45	-446.20	-447.95	233.31	1707356.15	14542919.98	40°02'39.135"N	104°45'38.951"W	6.25	
6983.00	24.520	357.650	6924.93	-413.24	-414.97	232.36	1707355.10	14542952.94	40°02'39.461"N	104°45'38.963"W	5.17	
7071.00	30.180	0.810	7003.06	-372.84	-374.58	231.92	1707354.56	14542993.32	40°02'39.860"N	104°45'38.969"W	6.64	
7158.00	35.810	2.700	7076.00	-325.50	-327.25	233.43	1707355.94	14543040.63	40°02'40.328"N	104°45'38.950"W	6.58	
7245.00	41.960	0.940	7143.69	-270.93	-272.69	235.11	1707357.47	14543095.17	40°02'40.867"N	104°45'38.928"W	7.18	
7333.00	48.870	358.920	7205.43	-208.31	-210.06	234.96	1707357.16	14543157.78	40°02'41.486"N	104°45'38.930"W	8.02	
7421.00	55.080	357.630	7259.62	-139.07	-140.81	232.85	1707354.86	14543226.99	40°02'42.170"N	104°45'38.957"W	7.15	
7508.00	61.360	356.870	7305.41	-65.27	-66.97	229.28	1707351.10	14543300.79	40°02'42.900"N	104°45'39.003"W	7.26	
7518.00†	62.201	357.172	7310.14	-56.47	-58.18	228.82	1707350.62	14543309.58	40°02'42.987"N	104°45'39.009"W	8.83	ENTER LANDBOX (460'FSL & 1943'FEL,SEC.15) 40.0452742 -104.7608358
7595.00	68.700	359.360	7342.12	13.48	11.79	226.74	1707348.35	14543379.51	40°02'43.679"N	104°45'39.036"W	8.83	
7683.00	73.870	359.420	7370.35	96.78	95.10	225.85	1707347.24	14543462.79	40°02'44.502"N	104°45'39.047"W	5.88	
7770.00	80.470	359.870	7389.65	181.55	179.88	225.33	1707346.49	14543547.54	40°02'45.340"N	104°45'39.054"W	7.60	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 MAB 15-3HZ(518'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-3HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (209 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
7858.00	85.570	359.450	7400.34	268.86	267.20	224.81	1707345.74	14543634.82	40°02'46.203"N	104°45'39.060"W	5.81	
7945.00	90.350	359.430	7403.44	355.77	354.12	223.96	1707344.65	14543721.70	40°02'47.061"N	104°45'39.071"W	5.49	LANDING (872'FSL & 1947'FEL,SEC.15) 40.0464060 -104.7608531
8033.00	90.020	358.980	7403.16	443.75	442.11	222.74	1707343.20	14543809.65	40°02'47.931"N	104°45'39.087"W	0.63	
8120.00	89.750	358.640	7403.33	530.72	529.09	220.94	1707341.16	14543896.59	40°02'48.791"N	104°45'39.110"W	0.50	
8207.00	89.590	358.290	7403.83	617.66	616.05	218.61	1707338.60	14543983.52	40°02'49.650"N	104°45'39.140"W	0.44	
8294.00	89.440	357.700	7404.57	704.58	703.00	215.56	1707335.32	14544070.42	40°02'50.509"N	104°45'39.179"W	0.70	
8381.00	89.240	358.710	7405.57	791.51	789.95	212.84	1707332.37	14544157.32	40°02'51.368"N	104°45'39.214"W	1.18	
8469.00	89.960	0.320	7406.18	879.49	877.94	212.09	1707331.39	14544245.28	40°02'52.238"N	104°45'39.224"W	2.00	
8557.00	90.560	0.500	7405.79	967.49	965.94	212.72	1707331.78	14544333.24	40°02'53.108"N	104°45'39.216"W	0.71	
8644.00	89.390	0.540	7405.82	1054.49	1052.93	213.51	1707332.34	14544420.20	40°02'53.967"N	104°45'39.206"W	1.35	
8731.00	89.440	0.050	7406.71	1141.48	1139.92	213.96	1707332.55	14544507.16	40°02'54.827"N	104°45'39.200"W	0.57	
8819.00	89.110	359.430	7407.83	1229.47	1227.92	213.56	1707331.92	14544595.12	40°02'55.697"N	104°45'39.205"W	0.80	
8860.00†	89.157	359.185	7408.45	1270.46	1268.91	213.06	1707331.31	14544636.09	40°02'56.102"N	104°45'39.211"W	0.61	CROSS SETBACK HEEL (1787'FSL & 1958'FEL,SEC.15) 40.0489171 -104.7608920
8906.00	89.210	358.910	7409.10	1316.44	1314.90	212.30	1707330.43	14544682.06	40°02'56.556"N	104°45'39.221"W	0.61	
8994.00	89.270	358.630	7410.27	1404.40	1402.87	210.41	1707328.30	14544769.99	40°02'57.425"N	104°45'39.245"W	0.33	
9081.00	89.190	358.330	7411.44	1491.34	1489.83	208.10	1707325.76	14544856.91	40°02'58.285"N	104°45'39.275"W	0.36	
9168.00	90.410	0.250	7411.74	1578.31	1576.82	207.03	1707324.45	14544943.86	40°02'59.144"N	104°45'39.289"W	2.61	
9256.00	89.790	359.700	7411.59	1666.31	1664.82	206.99	1707324.18	14545031.83	40°03'00.014"N	104°45'39.289"W	0.94	
9343.00	90.610	359.300	7411.28	1753.30	1751.81	206.23	1707323.19	14545118.79	40°03'00.874"N	104°45'39.299"W	1.05	
9431.00	88.480	0.590	7411.98	1841.28	1839.80	206.14	1707322.87	14545206.74	40°03'01.743"N	104°45'39.300"W	2.83	
9518.00	88.930	0.170	7413.95	1928.26	1926.78	206.72	1707323.21	14545293.68	40°03'02.603"N	104°45'39.293"W	0.71	
9606.00	89.160	359.890	7415.42	2016.25	2014.77	206.77	1707323.02	14545381.63	40°03'03.472"N	104°45'39.292"W	0.41	
9693.00	89.280	359.230	7416.60	2103.23	2101.75	206.10	1707322.12	14545468.59	40°03'04.332"N	104°45'39.301"W	0.77	
9781.00	89.960	358.790	7417.18	2191.20	2189.74	204.58	1707320.37	14545556.53	40°03'05.202"N	104°45'39.320"W	0.92	
9868.00	91.100	1.310	7416.38	2278.19	2276.73	204.65	1707320.21	14545643.48	40°03'06.061"N	104°45'39.319"W	3.18	
9955.00	90.470	2.050	7415.19	2365.16	2363.68	207.20	1707322.53	14545730.41	40°03'06.920"N	104°45'39.286"W	1.12	
10043.00	91.320	2.100	7413.81	2453.11	2451.61	210.39	1707325.47	14545818.31	40°03'07.789"N	104°45'39.245"W	0.97	
10130.00	89.640	2.340	7413.08	2540.06	2538.54	213.76	1707328.61	14545905.22	40°03'08.648"N	104°45'39.202"W	1.95	
10218.00	90.390	3.360	7413.06	2627.98	2626.43	218.14	1707332.75	14545993.08	40°03'09.517"N	104°45'39.146"W	1.44	
10305.00	90.820	3.540	7412.14	2714.85	2713.27	223.37	1707337.75	14546079.90	40°03'10.375"N	104°45'39.079"W	0.54	
10393.00	90.180	3.040	7411.37	2802.74	2801.12	228.42	1707342.56	14546167.73	40°03'11.243"N	104°45'39.014"W	0.92	
10480.00	89.280	0.230	7411.78	2889.71	2888.07	230.90	1707344.81	14546254.65	40°03'12.103"N	104°45'38.982"W	3.39	
10568.00	89.810	0.790	7412.48	2977.70	2976.06	231.69	1707345.36	14546342.61	40°03'12.972"N	104°45'38.972"W	0.88	
10656.00	90.450	1.740	7412.28	3065.69	3064.04	233.63	1707347.07	14546430.56	40°03'13.842"N	104°45'38.947"W	1.30	
10743.00	90.050	0.810	7411.90	3152.68	3151.02	235.56	1707348.77	14546517.51	40°03'14.701"N	104°45'38.922"W	1.16	
10831.00	89.780	1.190	7412.03	3240.68	3239.00	237.10	1707350.07	14546605.46	40°03'15.571"N	104°45'38.902"W	0.53	
10918.00	89.150	1.560	7412.85	3327.66	3325.97	239.19	1707351.92	14546692.40	40°03'16.430"N	104°45'38.875"W	0.84	
11006.00	88.700	1.450	7414.50	3415.63	3413.93	241.50	1707354.00	14546780.33	40°03'17.299"N	104°45'38.845"W	0.53	
11093.00	88.190	1.350	7416.86	3502.58	3500.87	243.62	1707355.89	14546867.24	40°03'18.158"N	104°45'38.818"W	0.60	
11181.00	90.070	0.110	7418.19	3590.57	3588.85	244.74	1707356.77	14546955.19	40°03'19.028"N	104°45'38.804"W	2.56	
11268.00	90.080	0.200	7418.08	3677.57	3675.85	244.98	1707356.77	14547042.15	40°03'19.888"N	104°45'38.801"W	0.10	
11359.00	89.080	359.800	7418.75	3768.56	3766.84	244.98	1707356.53	14547133.11	40°03'20.787"N	104°45'38.801"W	1.18	
11451.00	89.680	359.060	7419.74	3860.54	3858.83	244.06	1707355.37	14547225.06	40°03'21.696"N	104°45'38.812"W	1.04	
11542.00	90.580	359.140	7419.54	3951.51	3949.82	242.63	1707353.70	14547316.01	40°03'22.595"N	104°45'38.831"W	0.99	
11633.00	90.550	358.630	7418.64	4042.48	4040.80	240.86	1707351.68	14547406.95	40°03'23.494"N	104°45'38.853"W	0.56	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 MAB 15-3HZ(518'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-3HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (209 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
11725.00	90.700	358.130	7417.64	4134.41	4132.75	238.26	1707348.84	14547498.86	40°03'24.403"N	104°45'38.887"W	0.57	
11812.00	91.020	359.840	7416.33	4221.37	4219.73	236.72	1707347.07	14547585.79	40°03'25.262"N	104°45'38.907"W	2.00	
11900.00	89.670	358.070	7415.80	4309.34	4307.71	235.12	1707345.23	14547673.73	40°03'26.132"N	104°45'38.927"W	2.53	
11988.00	89.930	357.820	7416.11	4397.25	4395.65	231.96	1707341.84	14547761.63	40°03'27.001"N	104°45'38.968"W	0.41	
12075.00	90.520	359.550	7415.76	4484.21	4482.62	229.97	1707339.61	14547848.56	40°03'27.860"N	104°45'38.994"W	2.10	
12162.00	91.040	359.650	7414.58	4571.19	4569.61	229.36	1707338.77	14547935.52	40°03'28.720"N	104°45'39.001"W	0.61	
12250.00	90.950	359.180	7413.05	4659.16	4657.59	228.46	1707337.64	14548023.46	40°03'29.589"N	104°45'39.013"W	0.54	
12338.00	90.990	358.820	7411.56	4747.12	4745.57	226.92	1707335.86	14548111.40	40°03'30.459"N	104°45'39.033"W	0.41	
12425.00	90.280	359.870	7410.60	4834.10	4832.55	225.93	1707334.64	14548198.35	40°03'31.318"N	104°45'39.045"W	1.46	
12512.00	90.620	359.930	7409.92	4921.09	4919.55	225.78	1707334.25	14548285.31	40°03'32.178"N	104°45'39.047"W	0.40	
12600.00	90.120	359.820	7409.35	5009.09	5007.55	225.59	1707333.83	14548373.27	40°03'33.048"N	104°45'39.050"W	0.58	
12688.00	90.380	359.140	7408.96	5097.07	5095.54	224.79	1707332.79	14548461.23	40°03'33.917"N	104°45'39.060"W	0.83	
12776.00	89.850	0.550	7408.79	5185.07	5183.54	224.55	1707332.32	14548549.19	40°03'34.787"N	104°45'39.063"W	1.71	
12863.00	89.900	0.320	7408.98	5272.07	5270.54	225.21	1707332.75	14548636.15	40°03'35.647"N	104°45'39.055"W	0.27	
12951.00	89.190	359.650	7409.67	5360.06	5358.53	225.19	1707332.49	14548724.11	40°03'36.516"N	104°45'39.055"W	1.11	
13038.00	90.130	359.490	7410.19	5447.05	5445.53	224.53	1707331.60	14548811.07	40°03'37.376"N	104°45'39.063"W	1.10	
13126.00	89.930	1.320	7410.15	5535.04	5533.52	225.16	1707331.99	14548899.03	40°03'38.246"N	104°45'39.055"W	2.09	
13213.00	90.210	2.120	7410.04	5622.02	5620.48	227.77	1707334.37	14548985.96	40°03'39.105"N	104°45'39.022"W	0.97	
13301.00	89.880	2.630	7409.97	5709.97	5708.41	231.41	1707337.78	14549073.86	40°03'39.974"N	104°45'38.975"W	0.69	
13388.00	89.250	2.610	7410.63	5796.90	5795.31	235.39	1707341.52	14549160.74	40°03'40.833"N	104°45'38.924"W	0.72	
13475.00	89.320	3.000	7411.72	5883.82	5882.20	239.65	1707345.54	14549247.61	40°03'41.691"N	104°45'38.869"W	0.46	
13563.00	88.990	2.990	7413.01	5971.72	5970.07	244.25	1707349.90	14549335.46	40°03'42.560"N	104°45'38.810"W	0.38	
13650.00	88.820	2.770	7414.68	6058.63	6056.95	248.62	1707354.04	14549422.31	40°03'43.418"N	104°45'38.753"W	0.32	
13738.00	88.100	2.720	7417.04	6146.52	6144.81	252.83	1707358.02	14549510.15	40°03'44.286"N	104°45'38.699"W	0.82	
13825.00	89.120	1.720	7419.15	6233.45	6231.72	256.20	1707361.15	14549597.03	40°03'45.145"N	104°45'38.656"W	1.64	
13913.00	90.690	1.050	7419.30	6321.44	6319.69	258.32	1707363.04	14549684.97	40°03'46.015"N	104°45'38.629"W	1.94	
14000.00	91.700	0.840	7417.48	6408.41	6406.66	259.76	1707364.24	14549771.91	40°03'46.874"N	104°45'38.610"W	1.19	
14088.00	90.700	358.420	7415.64	6496.38	6494.63	259.19	1707363.44	14549859.84	40°03'47.743"N	104°45'38.617"W	2.97	
14175.00	89.610	358.460	7415.40	6583.32	6581.60	256.82	1707360.84	14549946.77	40°03'48.603"N	104°45'38.648"W	1.25	
14262.00	89.320	358.240	7416.22	6670.26	6668.56	254.32	1707358.10	14550033.69	40°03'49.462"N	104°45'38.680"W	0.42	
14350.00	89.330	357.810	7417.25	6758.18	6756.50	251.28	1707354.84	14550121.59	40°03'50.331"N	104°45'38.719"W	0.49	
14437.00	89.680	357.760	7418.01	6845.08	6843.43	247.92	1707351.24	14550208.47	40°03'51.190"N	104°45'38.762"W	0.41	
14525.00	89.560	359.420	7418.59	6933.03	6931.40	245.76	1707348.84	14550296.40	40°03'52.060"N	104°45'38.790"W	1.89	
14612.00	89.670	359.370	7419.17	7020.02	7018.39	244.84	1707347.69	14550383.36	40°03'52.919"N	104°45'38.802"W	0.14	
14700.00	89.520	359.580	7419.80	7108.00	7106.38	244.03	1707346.65	14550471.31	40°03'53.789"N	104°45'38.812"W	0.29	
14787.00	89.010	359.690	7420.91	7194.99	7193.38	243.48	1707345.86	14550558.27	40°03'54.649"N	104°45'38.819"W	0.60	
14876.00	89.010	359.200	7422.45	7283.96	7282.36	242.62	1707344.76	14550647.21	40°03'55.528"N	104°45'38.830"W	0.55	
14963.00	89.880	358.460	7423.29	7370.92	7369.33	240.84	1707342.75	14550734.15	40°03'56.387"N	104°45'38.853"W	1.31	
15050.00	89.900	358.180	7423.46	7457.86	7456.30	238.29	1707339.97	14550821.07	40°03'57.247"N	104°45'38.886"W	0.32	
15138.00	90.550	359.340	7423.11	7545.82	7544.27	236.38	1707337.83	14550909.01	40°03'58.116"N	104°45'38.911"W	1.51	
15225.00	90.180	359.490	7422.56	7632.81	7631.27	235.50	1707336.71	14550995.96	40°03'58.976"N	104°45'38.922"W	0.46	
15313.00	90.440	359.840	7422.08	7720.80	7719.26	234.98	1707335.96	14551083.92	40°03'59.845"N	104°45'38.929"W	0.50	
15400.00	90.750	0.060	7421.18	7807.79	7806.26	234.91	1707335.65	14551170.88	40°04'00.705"N	104°45'38.930"W	0.44	
15488.00	91.550	359.800	7419.41	7895.77	7894.24	234.80	1707335.31	14551258.83	40°04'01.575"N	104°45'38.931"W	0.96	
15575.00	90.150	359.970	7418.12	7982.75	7981.23	234.62	1707334.90	14551345.78	40°04'02.434"N	104°45'38.933"W	1.62	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 MAB 15-3HZ(518'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-3HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (209 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
15663.00	90.920	0.450	7417.30	8070.75	8069.22	234.95	1707334.99	14551433.74	40°04'03.304"N	104°45'38.929"W	1.03	
15750.00	92.100	0.540	7415.01	8157.71	8156.19	235.70	1707335.51	14551520.67	40°04'04.163"N	104°45'38.919"W	1.36	
15838.00	91.010	3.010	7412.62	8245.65	8244.10	238.42	1707338.00	14551608.56	40°04'05.032"N	104°45'38.884"W	3.07	
15925.00	88.840	2.360	7412.73	8332.58	8331.00	242.50	1707341.84	14551695.44	40°04'05.891"N	104°45'38.832"W	2.60	
16012.00	87.700	2.550	7415.36	8419.48	8417.88	246.22	1707345.33	14551782.29	40°04'06.749"N	104°45'38.784"W	1.33	
16100.00	88.360	2.300	7418.39	8507.37	8505.75	249.94	1707348.82	14551870.14	40°04'07.618"N	104°45'38.736"W	0.80	
16187.00	88.410	2.030	7420.84	8594.30	8592.65	253.23	1707351.87	14551957.01	40°04'08.477"N	104°45'38.694"W	0.32	
16275.00	89.720	1.230	7422.27	8682.27	8680.60	255.73	1707354.13	14552044.94	40°04'09.346"N	104°45'38.662"W	1.74	
16363.00	89.610	1.170	7422.79	8770.26	8768.58	257.57	1707355.74	14552132.88	40°04'10.215"N	104°45'38.638"W	0.14	
16450.00	90.840	1.000	7422.45	8857.25	8855.57	259.22	1707357.15	14552219.84	40°04'11.075"N	104°45'38.617"W	1.43	
16537.00	91.120	1.190	7420.96	8944.23	8942.54	260.88	1707358.58	14552306.78	40°04'11.934"N	104°45'38.595"W	0.39	
16624.00	91.070	1.360	7419.30	9031.20	9029.50	262.82	1707360.28	14552393.71	40°04'12.794"N	104°45'38.570"W	0.20	
16712.00	90.990	1.180	7417.71	9119.18	9117.46	264.77	1707362.00	14552481.64	40°04'13.663"N	104°45'38.545"W	0.22	
16799.00	90.950	0.610	7416.24	9206.16	9204.44	266.13	1707363.12	14552568.59	40°04'14.522"N	104°45'38.528"W	0.66	
16887.00	91.520	0.230	7414.34	9294.14	9292.42	266.77	1707363.53	14552656.53	40°04'15.392"N	104°45'38.519"W	0.78	
16974.00	90.710	359.940	7412.65	9381.12	9379.40	266.90	1707363.43	14552743.48	40°04'16.251"N	104°45'38.518"W	0.99	
17062.00	90.580	1.250	7411.66	9469.12	9467.39	267.82	1707364.11	14552831.43	40°04'17.121"N	104°45'38.506"W	1.50	
17149.00	90.780	0.160	7410.63	9556.11	9554.37	268.89	1707364.95	14552918.39	40°04'17.980"N	104°45'38.492"W	1.27	
17224.00†	90.499	1.183	7409.79	9631.10	9629.36	269.77	1707365.62	14552993.35	40°04'18.721"N	104°45'38.481"W	1.41	CROSS SETBACK TOE (459'FNL & 1954'FEL,SEC.10) 40.0718671 -104.7606891
17237.00	90.450	1.360	7409.68	9644.10	9642.36	270.05	1707365.88	14553006.34	40°04'18.850"N	104°45'38.477"W	1.41	
17325.00	90.780	0.280	7408.74	9732.09	9730.34	271.31	1707366.90	14553094.29	40°04'19.719"N	104°45'38.461"W	1.28	
17412.00	89.450	2.080	7408.56	9819.08	9817.32	273.10	1707368.46	14553181.24	40°04'20.579"N	104°45'38.438"W	2.57	
17499.00	89.490	2.250	7409.37	9906.03	9904.25	276.39	1707371.51	14553268.15	40°04'21.438"N	104°45'38.396"W	0.20	
17587.00	89.500	1.700	7410.15	9994.00	9992.20	279.42	1707374.31	14553356.07	40°04'22.307"N	104°45'38.357"W	0.63	
17674.00	89.620	1.730	7410.81	10080.97	10079.16	282.03	1707376.68	14553443.00	40°04'23.166"N	104°45'38.323"W	0.14	
17762.00	89.420	1.220	7411.55	10168.96	10167.12	284.29	1707378.71	14553530.93	40°04'24.036"N	104°45'38.294"W	0.62	
17849.00	89.550	1.050	7412.33	10255.95	10254.10	286.02	1707380.20	14553617.88	40°04'24.895"N	104°45'38.272"W	0.25	
17939.00	89.390	0.860	7413.16	10345.94	10344.09	287.52	1707381.45	14553707.84	40°04'25.785"N	104°45'38.252"W	0.28	LAST BHGE MWD+IFR1+MSA SURVEY
17990.00	89.390	0.860	7413.71	10396.93	10395.08	288.28	1707382.08	14553758.81	40°04'26.288"N	104°45'38.243"W	0.00	PTB (307'FSL & 1936'FEL,SEC.03) 40.0739690 -104.7606229

HOLE & CASING SECTIONS - Ref Wellbore: MAB 15-3HZ AWB Ref Wellpath: MAB 15-3HZ 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	1857.00	1840.00	17.00	1841.50	0.00	0.00	-188.85	87.32

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 MAB 15-3HZ(518'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-3HZ 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	614.69	-1679.51	1705441.24	14543977.08	40°02'49.636"N	104°46'03.547"W	polygon
SEC.15-T1N-R66W	34.00	614.69	-1679.51	1705441.24	14543977.08	40°02'49.636"N	104°46'03.547"W	polygon
MAB 15-3HZ BHL REV-2(311'FSL & 1925'FEL,SEC.03)	7400.00	10399.08	299.46	1707393.24	14553762.84	40°04'26.328"N	104°45'38.099"W	point
MAB 15-3HZ HEEL REV-2(765'FSL & 1949'FEL,SEC.15)	7400.00	247.03	224.00	1707344.97	14543614.65	40°02'46.003"N	104°45'39.071"W	point
MAB 15-3HZ BHL REV-1(311'FSL & 1925'FEL,SEC.03)	7403.00	10399.08	299.46	1707393.24	14553762.84	40°04'26.328"N	104°45'38.099"W	point
MAB 15-3HZ HEEL REV-1(765'FSL & 1949'FEL,SEC.15)	7403.00	247.03	224.00	1707344.97	14543614.65	40°02'46.003"N	104°45'39.071"W	point
MAB 15-3HZ LANDBOX	7403.00	0.00	0.00	1707121.73	14543367.12	40°02'43.562"N	104°45'41.951"W	polygon
MAB 15-3HZ SETBACK 1	7403.00	0.00	0.00	1707121.73	14543367.12	40°02'43.562"N	104°45'41.951"W	polygon
MAB 15-3HZ SETBACK 2	7403.00	0.00	0.00	1707121.73	14543367.12	40°02'43.562"N	104°45'41.951"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: MAB 15-3HZ AWB Ref Wellpath: MAB 15-3HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	1819.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <124 - 1819>	MAB 15-3HZ AWB
1819.00	17939.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1879 - 17939>	MAB 15-3HZ AWB
17939.00	17990.00	Blind Drilling (std)	Projection to bit	MAB 15-3HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#21 MAB 15-3HZ(518'FSL & 2171'FEL,SEC.15)
Area	COLORADO	Well	MAB 15-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	MAB 15-3HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
124.00	0.090	85.530	124.00	FIRST SURFACE MWD+IFR1 SURVEY
1819.00	9.930	157.340	1804.08	LAST SURFACE MWD+IFR1 SURVEY
1879.00	10.150	156.530	1863.16	FIRST BHGE MWD+IFR1+MSA SURVEY
6675.00	3.561	14.264	6629.28	KOP
7518.00	62.201	357.172	7310.14	ENTER LANDBOX (460'FSL & 1943'FEL,SEC.15) 40.0452742 -104.7608358
7945.00	90.350	359.430	7403.44	LANDING (872'FSL & 1947'FEL,SEC.15) 40.0464060 -104.7608531
8860.00	89.157	359.185	7408.45	CROSS SETBACK HEEL (1787'FSL & 1958'FEL,SEC.15) 40.0489171 -104.7608920
17224.00	90.499	1.183	7409.79	CROSS SETBACK TOE (459'FNL & 1954'FEL,SEC.10) 40.0718671 -104.7606891
17939.00	89.390	0.860	7413.16	LAST BHGE MWD+IFR1+MSA SURVEY
17990.00	89.390	0.860	7413.71	PTB (307'FSL & 1936'FEL,SEC.03) 40.0739690 -104.7606229