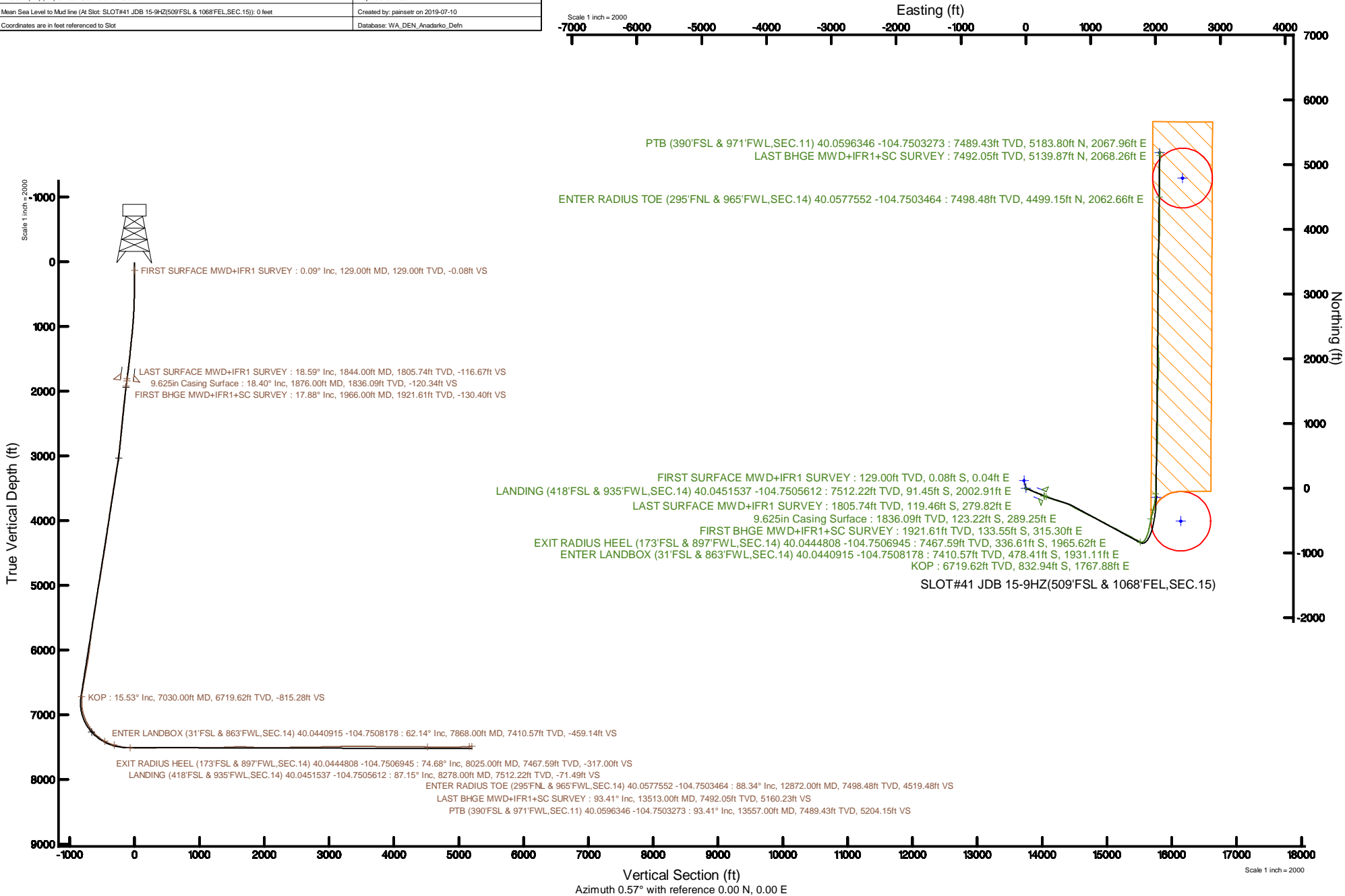


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#41 JDB 15-9HZ(509'FSL & 1068'FEL,SEC.15)
Field: WELD COUNTY (UTM/TRUE NORTH) Well: JDB 15-9HZ
Facility: SEC.15-T1N-R66W Wellbore: JDB 15-9HZ PWB

Plot reference wellpath is JDB 15-9HZ PWP Rev-B.1	Grid System: NAD83 / UTM Zone 13 North, US feet
True vertical depths are referenced to Akita 522 (17) (RT)	North Reference: True north
Measured depths are referenced to Akita 522 (17) (RT)	Scale: True distance
Akita 522 (17) (RT) to Mean Sea Level: 5170 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot: SLOT#41 JDB 15-9HZ(509'FSL & 1068'FEL,SEC.15): 0 feet	Created by: painsetr on 2019-07-10
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#41 JDB 15-9HZ(509'FSL & 1068'FEL,SEC.15)
Area	COLORADO	Well	JDB 15-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JDB 15-9HZ AWB
Facility	SEC.15-T1N-R66W		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.1
North Reference	True	User	Painsetr
Scale	0.999605	Report Generated	7/10/2019 at 2:03:49 PM
Convergence at slot	0.16° East	Database/Source file	WA_DEN_Anadarko_Defn/JDB_15-9HZ_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-760.00	2781.11	1708223.88	14543359.58	40°02'43.458"N	104°45'27.774"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	5170.00ft
Horizontal Reference Pt	Slot	Akita 522 (17') (RT) to Mean Sea Level	5170.00ft
Vertical Reference Pt	Akita 522 (17') (RT)	Akita 522 (17') (RT) to Mud Line at Slot (SLOT#41 JDB 15-9HZ (509'FSL & 1068'FEL,SEC.15))	5170.00ft
MD Reference Pt	Akita 522 (17') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.57°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JDB 15-9HZ(509'FSL & 1068'FEL,SEC.15)
Area	COLORADO	Well	JDB 15-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JDB 15-9HZ AWP
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (160 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	149.860	0.00	0.00	0.00	0.00	1708223.88	14543359.58	40°02'43.458"N	104°45'27.774"W	0.00	
17.00	0.000	149.860	17.00	0.00	0.00	0.00	1708223.88	14543359.58	40°02'43.458"N	104°45'27.774"W	0.00	
129.00	0.090	149.860	129.00	-0.08	-0.08	0.04	1708223.93	14543359.50	40°02'43.457"N	104°45'27.773"W	0.08	FIRST SURFACE MWD+IFR1 SURVEY
224.00	0.090	130.080	224.00	-0.19	-0.19	0.14	1708224.02	14543359.39	40°02'43.456"N	104°45'27.772"W	0.03	
320.00	0.260	228.430	320.00	-0.38	-0.38	0.03	1708223.92	14543359.20	40°02'43.454"N	104°45'27.774"W	0.30	
415.00	1.540	121.120	414.99	-1.17	-1.18	0.97	1708224.85	14543358.40	40°02'43.446"N	104°45'27.762"W	1.72	
511.00	3.960	120.060	510.87	-3.46	-3.51	4.94	1708228.83	14543356.08	40°02'43.423"N	104°45'27.710"W	2.52	
606.00	5.840	108.810	605.52	-6.59	-6.71	12.35	1708236.25	14543352.90	40°02'43.392"N	104°45'27.615"W	2.21	
701.00	6.150	106.880	700.00	-9.53	-9.75	21.80	1708245.70	14543349.89	40°02'43.362"N	104°45'27.494"W	0.39	
795.00	7.690	115.680	793.32	-13.62	-13.94	32.29	1708256.19	14543345.73	40°02'43.320"N	104°45'27.359"W	1.98	
890.00	9.580	113.470	887.24	-19.39	-19.84	45.27	1708269.19	14543339.87	40°02'43.262"N	104°45'27.192"W	2.02	
986.00	12.880	114.080	981.38	-26.77	-27.39	62.37	1708286.30	14543332.37	40°02'43.187"N	104°45'26.972"W	3.44	
1081.00	13.540	114.000	1073.87	-35.41	-36.23	82.19	1708306.14	14543323.58	40°02'43.100"N	104°45'26.717"W	0.70	
1176.00	14.330	114.610	1166.07	-44.62	-45.65	103.04	1708327.01	14543314.22	40°02'43.007"N	104°45'26.449"W	0.85	
1270.00	14.370	113.380	1257.14	-53.88	-55.13	124.33	1708348.31	14543304.81	40°02'42.913"N	104°45'26.175"W	0.33	
1366.00	15.160	110.740	1349.97	-62.83	-64.30	147.00	1708371.00	14543295.70	40°02'42.823"N	104°45'25.884"W	1.08	
1461.00	16.520	111.800	1441.36	-72.01	-73.71	171.16	1708395.17	14543286.36	40°02'42.730"N	104°45'25.573"W	1.46	
1556.00	17.930	112.680	1532.10	-82.40	-84.37	197.19	1708421.23	14543275.78	40°02'42.624"N	104°45'25.238"W	1.51	
1650.00	17.580	112.770	1621.62	-93.21	-95.44	223.63	1708447.69	14543264.78	40°02'42.515"N	104°45'24.899"W	0.37	
1745.00	18.630	114.000	1711.92	-104.66	-107.17	250.72	1708474.80	14543253.13	40°02'42.399"N	104°45'24.550"W	1.18	
1844.00	18.590	111.800	1805.74	-116.67	-119.46	279.82	1708503.92	14543240.93	40°02'42.277"N	104°45'24.176"W	0.71	LAST SURFACE MWD+IFR1 SURVEY
1966.00	17.880	111.500	1921.61	-130.40	-133.55	315.30	1708539.42	14543226.94	40°02'42.138"N	104°45'23.720"W	0.59	FIRST BHGE MWD+IFR1+SC SURVEY
2053.00	19.570	115.000	2004.01	-141.19	-144.60	340.94	1708565.08	14543215.96	40°02'42.029"N	104°45'23.390"W	2.33	
2140.00	19.590	108.450	2085.99	-151.70	-155.37	367.98	1708592.14	14543205.27	40°02'41.923"N	104°45'23.042"W	2.52	
2227.00	19.180	108.430	2168.06	-160.56	-164.51	395.38	1708619.55	14543196.21	40°02'41.832"N	104°45'22.690"W	0.47	
2314.00	18.520	106.970	2250.39	-168.84	-173.06	422.15	1708646.34	14543187.73	40°02'41.748"N	104°45'22.346"W	0.93	
2402.00	19.560	110.230	2333.58	-177.75	-182.23	449.34	1708673.54	14543178.64	40°02'41.657"N	104°45'21.996"W	1.69	
2489.00	18.840	108.920	2415.74	-187.07	-191.82	476.30	1708700.51	14543169.13	40°02'41.562"N	104°45'21.650"W	0.96	
2577.00	18.070	107.810	2499.21	-195.59	-200.61	502.73	1708726.96	14543160.42	40°02'41.476"N	104°45'21.310"W	0.96	
2665.00	18.800	105.390	2582.70	-203.26	-208.54	529.40	1708753.64	14543152.56	40°02'41.397"N	104°45'20.967"W	1.20	
2752.00	17.670	103.860	2665.33	-209.88	-215.43	555.73	1708779.98	14543145.75	40°02'41.329"N	104°45'20.628"W	1.41	
2840.00	18.940	108.470	2748.88	-217.34	-223.15	582.25	1708806.51	14543138.10	40°02'41.253"N	104°45'20.287"W	2.19	
2927.00	17.970	108.060	2831.40	-225.71	-231.79	608.40	1708832.67	14543129.54	40°02'41.167"N	104°45'19.951"W	1.12	
3015.00	18.670	111.170	2914.94	-234.75	-241.08	634.44	1708858.73	14543120.32	40°02'41.076"N	104°45'19.616"W	1.37	
3102.00	18.770	114.340	2997.34	-245.29	-251.88	660.18	1708884.48	14543109.59	40°02'40.969"N	104°45'19.285"W	1.17	
3190.00	18.260	119.860	3080.79	-257.74	-264.58	685.04	1708909.37	14543096.97	40°02'40.843"N	104°45'18.966"W	2.07	
3277.00	18.960	119.660	3163.24	-271.28	-278.36	709.14	1708933.50	14543083.26	40°02'40.707"N	104°45'18.656"W	0.81	
3364.00	17.670	120.330	3245.84	-284.70	-292.02	732.82	1708957.20	14543069.67	40°02'40.572"N	104°45'18.351"W	1.50	
3451.00	19.310	118.700	3328.34	-298.04	-305.60	756.84	1708981.25	14543056.16	40°02'40.438"N	104°45'18.043"W	1.98	
3539.00	17.820	118.320	3411.76	-311.17	-318.97	781.45	1709005.89	14543042.86	40°02'40.306"N	104°45'17.726"W	1.70	
3626.00	18.600	117.290	3494.40	-323.61	-331.65	805.50	1709029.97	14543030.25	40°02'40.180"N	104°45'17.417"W	0.97	
3714.00	19.600	116.860	3577.56	-336.45	-344.75	831.14	1709055.63	14543017.22	40°02'40.051"N	104°45'17.087"W	1.15	
3802.00	17.820	116.180	3660.90	-348.81	-357.36	856.40	1709080.91	14543004.68	40°02'39.926"N	104°45'16.762"W	2.04	
3889.00	18.320	121.240	3743.62	-361.54	-370.33	880.04	1709104.57	14542991.79	40°02'39.798"N	104°45'16.459"W	1.89	
3976.00	19.110	116.650	3826.02	-374.78	-383.81	904.46	1709129.02	14542978.38	40°02'39.665"N	104°45'16.145"W	1.92	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JDB 15-9HZ(509'FSL & 1068'FEL,SEC.15)
Area	COLORADO	Well	JDB 15-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JDB 15-9HZ AWP
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (160 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
4063.00	16.530	115.270	3908.84	-386.21	-395.48	928.38	1709152.97	14542966.78	40°02'39.550"N	104°45'15.837"W	3.00	
4151.00	17.150	112.760	3993.07	-396.34	-405.85	951.67	1709176.27	14542956.48	40°02'39.447"N	104°45'15.538"W	1.09	
4238.00	18.210	118.190	4075.96	-407.49	-417.23	975.48	1709200.11	14542945.16	40°02'39.335"N	104°45'15.231"W	2.25	
4326.00	19.800	116.090	4159.16	-420.29	-430.28	1000.98	1709225.64	14542932.19	40°02'39.206"N	104°45'14.903"W	1.97	
4414.00	17.510	114.360	4242.54	-432.05	-442.30	1026.43	1709251.11	14542920.25	40°02'39.087"N	104°45'14.576"W	2.68	
4501.00	18.540	117.010	4325.27	-443.49	-453.98	1050.68	1709275.38	14542908.64	40°02'38.971"N	104°45'14.264"W	1.51	
4589.00	20.530	116.860	4408.20	-456.55	-467.31	1076.91	1709301.64	14542895.39	40°02'38.840"N	104°45'13.927"W	2.26	
4676.00	19.100	117.410	4490.04	-469.74	-480.75	1103.16	1709327.91	14542882.02	40°02'38.707"N	104°45'13.590"W	1.66	
4764.00	20.630	118.430	4572.81	-483.48	-494.76	1129.58	1709354.35	14542868.08	40°02'38.568"N	104°45'13.250"W	1.78	
4851.00	18.340	118.480	4654.82	-497.05	-508.59	1155.09	1709379.89	14542854.33	40°02'38.432"N	104°45'12.922"W	2.63	
4939.00	18.590	117.870	4738.29	-509.97	-521.75	1179.66	1709404.49	14542841.25	40°02'38.302"N	104°45'12.606"W	0.36	
5049.00	18.680	114.540	4842.52	-525.16	-537.26	1211.18	1709436.04	14542825.83	40°02'38.148"N	104°45'12.201"W	0.97	
5137.00	20.480	121.790	4925.44	-538.87	-551.23	1237.09	1709461.98	14542811.94	40°02'38.010"N	104°45'11.868"W	3.43	
5224.00	18.290	121.550	5007.51	-553.79	-566.39	1261.67	1709486.59	14542796.85	40°02'37.860"N	104°45'11.552"W	2.52	
5311.00	20.800	117.820	5089.49	-567.89	-580.74	1286.97	1709511.92	14542782.57	40°02'37.719"N	104°45'11.226"W	3.22	
5399.00	18.620	116.450	5172.33	-581.18	-594.30	1313.37	1709538.34	14542769.09	40°02'37.585"N	104°45'10.887"W	2.53	
5486.00	19.600	113.580	5254.54	-592.94	-606.32	1339.18	1709564.17	14542757.14	40°02'37.466"N	104°45'10.555"W	1.56	
5574.00	18.120	116.930	5337.81	-604.79	-618.42	1364.91	1709589.93	14542745.11	40°02'37.346"N	104°45'10.224"W	2.08	
5661.00	18.550	115.930	5420.40	-616.72	-630.60	1389.42	1709614.46	14542733.01	40°02'37.226"N	104°45'09.909"W	0.61	
5749.00	18.440	122.460	5503.86	-630.07	-644.19	1413.75	1709638.82	14542719.49	40°02'37.092"N	104°45'09.596"W	2.36	
5836.00	19.180	121.260	5586.21	-644.64	-659.00	1437.58	1709662.68	14542704.76	40°02'36.945"N	104°45'09.290"W	0.96	
5924.00	16.290	118.400	5670.02	-657.78	-672.37	1460.80	1709685.92	14542691.45	40°02'36.813"N	104°45'08.991"W	3.43	
6011.00	16.180	117.570	5753.55	-668.98	-683.78	1482.27	1709707.42	14542680.10	40°02'36.700"N	104°45'08.715"W	0.30	
6099.00	15.700	120.950	5838.17	-680.57	-695.58	1503.35	1709728.53	14542668.36	40°02'36.584"N	104°45'08.444"W	1.19	
6186.00	16.100	113.020	5921.85	-691.13	-706.35	1524.56	1709749.75	14542657.65	40°02'36.477"N	104°45'08.172"W	2.54	
6274.00	16.710	112.860	6006.27	-700.58	-716.04	1547.44	1709772.65	14542648.03	40°02'36.381"N	104°45'07.877"W	0.70	
6362.00	18.870	117.890	6090.06	-711.92	-727.61	1571.68	1709796.92	14542636.53	40°02'36.267"N	104°45'07.566"W	3.01	
6449.00	20.310	117.010	6172.02	-725.10	-741.05	1597.57	1709822.83	14542623.17	40°02'36.134"N	104°45'07.233"W	1.69	
6537.00	20.080	120.090	6254.62	-739.34	-755.56	1624.25	1709849.54	14542608.73	40°02'35.991"N	104°45'06.890"W	1.24	
6624.00	20.690	121.210	6336.17	-754.53	-771.01	1650.32	1709875.64	14542593.36	40°02'35.838"N	104°45'06.555"W	0.83	
6712.00	20.410	117.240	6418.57	-769.34	-786.09	1677.26	1709902.61	14542578.36	40°02'35.689"N	104°45'06.208"W	1.61	
6799.00	20.450	117.080	6500.10	-782.93	-799.96	1704.28	1709929.65	14542564.58	40°02'35.552"N	104°45'05.861"W	0.08	
6887.00	17.920	121.060	6583.21	-796.67	-813.94	1729.57	1709954.97	14542550.66	40°02'35.414"N	104°45'05.536"W	3.23	
6974.00	17.970	117.260	6665.98	-809.49	-827.00	1752.96	1709978.39	14542537.68	40°02'35.285"N	104°45'05.235"W	1.35	
7030.00†	15.534	105.321	6719.62	-815.28	-832.94	1767.88	1709993.32	14542531.78	40°02'35.226"N	104°45'05.043"W	7.51	KOP
7062.00	14.500	96.940	6750.53	-816.81	-834.55	1775.99	1710001.43	14542530.19	40°02'35.210"N	104°45'04.939"W	7.51	
7150.00	14.150	76.390	6835.85	-815.40	-833.35	1797.40	1710022.83	14542531.45	40°02'35.222"N	104°45'04.664"W	5.76	
7238.00	16.180	54.450	6920.85	-805.53	-823.68	1817.84	1710043.24	14542541.17	40°02'35.317"N	104°45'04.401"W	6.87	
7325.00	21.380	33.320	7003.28	-785.01	-803.35	1836.45	1710061.78	14542561.55	40°02'35.518"N	104°45'04.161"W	9.75	
7412.00	25.650	28.450	7083.04	-755.01	-773.52	1854.14	1710079.39	14542591.41	40°02'35.813"N	104°45'03.934"W	5.39	
7500.00	31.900	20.590	7160.17	-716.27	-734.96	1871.42	1710096.55	14542630.00	40°02'36.194"N	104°45'03.712"W	8.29	
7587.00	38.130	17.000	7231.39	-668.86	-687.70	1887.37	1710112.37	14542677.28	40°02'36.661"N	104°45'03.507"W	7.54	
7674.00	45.960	11.170	7295.98	-612.25	-631.23	1901.31	1710126.15	14542733.77	40°02'37.219"N	104°45'03.327"W	10.05	
7762.00	52.460	9.870	7353.44	-546.66	-565.76	1913.43	1710138.09	14542799.25	40°02'37.866"N	104°45'03.171"W	7.47	
7850.00	60.580	12.400	7401.95	-474.59	-493.82	1927.67	1710152.12	14542871.19	40°02'38.577"N	104°45'02.988"W	9.53	

REFERENCE WELLPATH IDENTIFICATION				
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)			Slot
Area	COLORADO			Well
Field	WELD COUNTY (UTM/TRUE NORTH)			Wellbore
Facility	SEC.15-T1N-R66W			JDB 15-9HZ AWP

WELLPATH DATA (160 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
7868.00	62.138	12.775	7410.57	-459.14	-478.41	1931.11	1710155.52	14542886.61	40°02'38.730"N	104°45'02.944"W	8.85	ENTER LANDBOX (31'FSL & 863'FWL,SEC.14) 40.0440915 -104.7508178
7937.00	68.120	14.120	7439.58	-398.14	-417.56	1945.68	1710169.92	14542947.48	40°02'39.331"N	104°45'02.757"W	8.85	
8024.00	74.660	13.580	7467.33	-317.94	-337.54	1965.40	1710189.41	14543027.51	40°02'40.122"N	104°45'02.503"W	7.54	
8025.00	74.684	13.556	7467.59	-317.00	-336.61	1965.62	1710189.63	14543028.45	40°02'40.131"N	104°45'02.500"W	3.32	EXIT RADIUS HEEL (173'FSL & 897'FWL,SEC.14) 40.0444808 -104.7506945
8112.00	76.760	11.490	7489.05	-234.52	-254.31	1983.89	1710207.68	14543110.77	40°02'40.944"N	104°45'02.265"W	3.32	
8199.00	82.240	6.370	7504.91	-149.95	-169.86	1997.13	1710220.68	14543195.22	40°02'41.779"N	104°45'02.095"W	8.55	
8278.00	87.149	2.085	7512.22	-71.49	-91.45	2002.91	1710226.24	14543273.61	40°02'42.553"N	104°45'02.020"W	8.23	LANDING (418'FSL & 935'FWL,SEC.14) 40.0451537 -104.7505612
8287.00	87.710	1.600	7512.62	-62.50	-82.47	2003.20	1710226.51	14543282.59	40°02'42.642"N	104°45'02.017"W	8.23	
8374.00	89.640	0.270	7514.63	24.47	4.49	2004.62	1710227.69	14543369.52	40°02'43.502"N	104°45'01.998"W	2.69	
8462.00	90.550	0.710	7514.49	112.47	92.49	2005.37	1710228.20	14543457.48	40°02'44.371"N	104°45'01.988"W	1.15	
8549.00	91.780	1.400	7512.72	199.45	179.45	2006.98	1710229.57	14543544.42	40°02'45.231"N	104°45'01.968"W	1.62	
8637.00	89.960	2.000	7511.38	287.41	267.40	2009.59	1710231.94	14543632.34	40°02'46.100"N	104°45'01.934"W	2.18	
8725.00	90.240	2.310	7511.23	375.38	355.34	2012.89	1710235.01	14543720.25	40°02'46.969"N	104°45'01.892"W	0.47	
8812.00	90.750	2.500	7510.48	462.33	442.26	2016.55	1710238.42	14543807.14	40°02'47.828"N	104°45'01.844"W	0.63	
8900.00	91.640	2.590	7508.64	550.26	530.15	2020.45	1710242.08	14543895.01	40°02'48.696"N	104°45'01.794"W	1.02	
8987.00	90.040	3.770	7507.36	637.16	617.00	2025.28	1710246.67	14543981.84	40°02'49.555"N	104°45'01.732"W	2.29	
9075.00	88.750	1.800	7508.29	725.08	704.89	2029.55	1710250.71	14544069.70	40°02'50.423"N	104°45'01.677"W	2.68	
9162.00	88.950	2.000	7510.04	812.04	791.82	2032.44	1710253.35	14544156.61	40°02'51.282"N	104°45'01.640"W	0.33	
9250.00	89.780	3.590	7511.02	900.02	879.80	2033.55	1710254.23	14544244.56	40°02'52.152"N	104°45'01.625"W	3.05	
9337.00	90.480	3.590	7510.82	987.01	966.80	2032.95	1710253.39	14544331.52	40°02'53.011"N	104°45'01.633"W	0.88	
9424.00	91.240	3.590	7509.51	1073.99	1053.79	2032.22	1710252.43	14544418.47	40°02'53.871"N	104°45'01.642"W	1.03	
9512.00	91.350	0.810	7507.52	1161.96	1141.76	2032.29	1710252.25	14544506.41	40°02'54.740"N	104°45'01.641"W	1.74	
9599.00	89.870	0.390	7506.60	1248.95	1228.75	2033.20	1710252.93	14544593.36	40°02'55.600"N	104°45'01.629"W	1.77	
9687.00	91.120	0.290	7505.84	1336.94	1316.74	2033.72	1710253.21	14544681.32	40°02'56.470"N	104°45'01.623"W	1.42	
9774.00	92.720	3.590	7502.92	1423.89	1403.69	2033.56	1710252.82	14544768.23	40°02'57.329"N	104°45'01.625"W	2.05	
9861.00	92.620	1.580	7498.87	1510.79	1490.59	2034.38	1710253.40	14544855.10	40°02'58.188"N	104°45'01.614"W	2.39	
9949.00	90.640	2.100	7496.37	1598.72	1578.50	2037.21	1710255.98	14544942.99	40°02'59.056"N	104°45'01.578"W	2.33	
10036.00	88.250	2.890	7497.21	1685.66	1665.41	2041.00	1710259.53	14545029.87	40°02'59.915"N	104°45'01.529"W	2.89	
10124.00	86.570	2.970	7501.18	1773.50	1753.20	2045.49	1710263.78	14545117.64	40°03'00.783"N	104°45'01.471"W	1.91	
10211.00	85.900	1.090	7506.90	1860.28	1839.95	2048.56	1710266.62	14545204.36	40°03'01.640"N	104°45'01.431"W	2.29	
10299.00	89.650	3.590	7510.31	1948.19	1927.87	2048.99	1710266.81	14545292.24	40°03'02.509"N	104°45'01.426"W	4.64	
10386.00	89.750	3.590	7510.77	2035.17	2014.86	2048.10	1710265.69	14545379.20	40°03'03.368"N	104°45'01.437"W	0.17	
10474.00	90.610	3.570	7510.49	2123.11	2102.83	2045.91	1710263.25	14545467.13	40°03'04.238"N	104°45'01.465"W	2.04	
10561.00	91.150	3.570	7509.16	2209.99	2189.74	2042.27	1710259.38	14545554.00	40°03'05.097"N	104°45'01.512"W	0.75	
10649.00	91.220	3.590	7507.34	2297.89	2277.68	2039.65	1710256.52	14545641.89	40°03'05.966"N	104°45'01.545"W	1.99	
10736.00	91.860	3.580	7505.00	2384.82	2364.63	2037.86	1710254.50	14545728.80	40°03'06.825"N	104°45'01.568"W	1.08	
10823.00	90.300	0.220	7503.36	2471.78	2451.60	2036.88	1710253.28	14545815.74	40°03'07.684"N	104°45'01.581"W	2.69	
10911.00	90.250	3.590	7502.94	2559.77	2539.60	2036.43	1710252.59	14545903.70	40°03'08.554"N	104°45'01.587"W	1.16	
10998.00	91.380	3.590	7501.70	2646.74	2626.58	2035.44	1710251.36	14545990.64	40°03'09.414"N	104°45'01.599"W	1.34	
11086.00	90.180	3.590	7500.50	2734.72	2714.57	2034.95	1710250.63	14546078.60	40°03'10.283"N	104°45'01.605"W	1.43	
11173.00	91.210	0.710	7499.45	2821.71	2801.56	2035.39	1710250.84	14546165.55	40°03'11.143"N	104°45'01.600"W	1.53	
11260.00	91.450	0.200	7497.43	2908.68	2888.54	2036.08	1710251.29	14546252.49	40°03'12.002"N	104°45'01.591"W	0.65	
11347.00	92.690	0.030	7494.28	2995.62	2975.48	2036.25	1710251.23	14546339.40	40°03'12.862"N	104°45'01.588"W	1.44	
11435.00	90.390	0.520	7491.92	3083.58	3063.44	2036.67	1710251.41	14546427.33	40°03'13.731"N	104°45'01.583"W	2.67	
11522.00	90.270	3.580	7491.42	3170.57	3150.43	2036.18	1710250.68	14546514.29	40°03'14.590"N	104°45'01.589"W	1.95	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JDB 15-9HZ(509'FSL & 1068'FEL,SEC.15)
Area	COLORADO	Well	JDB 15-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JDB 15-9HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH DATA (160 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
11610.00	91.730	358.360	7489.88	8258.50	8238.39	2034.02	1710248.29	14546602.20	40°03'15.460"N	104°45'01.617"W	1.74	
11697.00	89.240	359.780	7489.15	8345.46	8325.37	2032.61	1710246.64	14546689.14	40°03'16.319"N	104°45'01.635"W	3.29	
11785.00	90.150	0.390	7489.61	8433.45	8413.36	2032.74	1710246.53	14546777.10	40°03'17.189"N	104°45'01.633"W	1.24	
11872.00	89.560	2.240	7489.83	8520.44	8500.34	2034.74	1710248.29	14546864.05	40°03'18.048"N	104°45'01.607"W	2.23	
11960.00	90.350	3.340	7489.90	8608.37	8588.23	2039.02	1710252.33	14546951.92	40°03'18.917"N	104°45'01.552"W	1.54	
12047.00	88.390	4.430	7490.86	8695.22	8675.02	2044.92	1710257.99	14547038.69	40°03'19.775"N	104°45'01.476"W	2.58	
12135.00	88.850	4.530	7492.98	8782.99	8762.72	2051.79	1710264.62	14547126.38	40°03'20.641"N	104°45'01.388"W	0.53	
12222.00	90.240	4.680	7493.67	8869.76	8849.44	2058.77	1710271.36	14547213.07	40°03'21.498"N	104°45'01.298"W	1.61	
12310.00	89.700	2.130	7493.72	8957.65	8937.28	2064.00	1710276.35	14547300.89	40°03'22.366"N	104°45'01.231"W	2.96	
12397.00	88.840	359.680	7494.83	9044.63	9024.25	2065.37	1710277.48	14547387.83	40°03'23.226"N	104°45'01.213"W	2.98	
12484.00	90.350	0.140	7495.44	9131.62	9111.25	2065.24	1710277.11	14547474.79	40°03'24.085"N	104°45'01.214"W	1.81	
12572.00	89.130	358.710	7495.84	9219.60	9199.24	2064.35	1710275.99	14547562.75	40°03'24.955"N	104°45'01.226"W	2.14	
12659.00	90.330	358.310	7496.25	9306.54	9286.20	2062.09	1710273.49	14547649.67	40°03'25.814"N	104°45'01.255"W	1.45	
12747.00	90.050	0.170	7495.96	9394.51	9374.19	2060.92	1710272.09	14547737.62	40°03'26.684"N	104°45'01.270"W	2.14	
12834.00	88.160	1.270	7497.32	9481.50	9461.17	2062.02	1710272.94	14547824.57	40°03'27.543"N	104°45'01.256"W	2.51	
12872.00†	88.341	0.678	7498.48	9519.48	9499.15	2062.66	1710273.48	14547862.53	40°03'27.919"N	104°45'01.247"W	1.63	ENTER RADIUS TOE (295'FNL & 965'FWL, SEC.14) 40.0577552 -104.7503464
12922.00	88.580	359.900	7499.82	9569.46	9549.13	2062.91	1710273.60	14547912.49	40°03'28.413"N	104°45'01.244"W	1.63	
13009.00	89.960	0.210	7500.93	9656.45	9636.12	2063.00	1710273.45	14547999.45	40°03'29.272"N	104°45'01.243"W	1.63	
13096.00	89.130	0.440	7501.62	9743.44	9723.11	2063.49	1710273.70	14548086.41	40°03'30.132"N	104°45'01.236"W	0.99	
13184.00	90.790	0.170	7501.68	9831.44	9811.11	2063.96	1710273.93	14548174.37	40°03'31.002"N	104°45'01.230"W	1.91	
13272.00	90.380	1.850	7500.78	9919.43	9899.09	2065.51	1710275.24	14548262.32	40°03'31.871"N	104°45'01.210"W	1.97	
13359.00	91.810	0.640	7499.12	10006.40	9986.05	2067.40	1710276.90	14548349.25	40°03'32.730"N	104°45'01.186"W	2.15	
13446.00	92.760	0.440	7495.65	10093.33	10072.97	2068.22	1710277.48	14548436.14	40°03'33.589"N	104°45'01.175"W	1.12	
13513.00	93.410	359.620	7492.05	10160.23	10139.87	2068.26	1710277.33	14548503.02	40°03'34.251"N	104°45'01.175"W	1.56	LAST BHGE MWD+IFR1+SC SURVEY
13557.00	93.410	359.620	7489.43	10204.15	10183.80	2067.96	1710276.92	14548546.92	40°03'34.685"N	104°45'01.178"W	0.00	PTB (390'FSL & 971'FWL, SEC.11) 40.0596346 -104.7503273

HOLE & CASING SECTIONS - Ref Wellbore: JDB 15-9HZ AWB Ref Wellpath: JDB 15-9HZ 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	1876.00	1859.00	17.00	1836.09	0.00	0.00	-123.22	289.25

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JDB 15-9HZ(509'FSL & 1068'FEL,SEC.15)
Area	COLORADO	Well	JDB 15-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JDB 15-9HZ 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.14-T1N-R66W	0.00	116.57	-28.56	1708195.02	14543476.03	40°02'44.610"N	104°45'28.141"W	polygon
JDB 15-9HZ HEEL REV-1(370'FSL & 943'FWL,SEC.14)	7508.00	-140.90	2009.97	1710233.43	14543224.20	40°02'42.065"N	104°45'01.930"W	point
JDB 15-9HZ BHL REV-1(390'FSL & 966'FWL,SEC.11)	7524.00	5183.94	2063.01	1710271.97	14548547.05	40°03'34.686"N	104°45'01.242"W	point
JDB 15-9HZ LANDBOX	7524.00	0.00	0.00	1708223.88	14543359.58	40°02'43.458"N	104°45'27.774"W	polygon
JDB 15-9HZ RADIUS 1	7524.00	-511.28	2390.68	1710615.00	14542855.00	40°02'38.404"N	104°44'57.035"W	polygon
JDB 15-9HZ RADIUS 2	7524.00	4791.97	2417.72	1710627.60	14548156.20	40°03'30.812"N	104°44'56.681"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: JDB 15-9HZ AWB Ref Wellpath: JDB 15-9HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
17.00	1844.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <129 - 1844>	JDB 15-9HZ AWB
1844.00	13513.00	Custom APC ISCWSA REV 2 MWD+IFR1+SC (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+SC <1966 - 13513>	JDB 15-9HZ AWB
13513.00	13557.00	Blind Drilling (std)	Projection to bit	JDB 15-9HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#41 JDB 15-9HZ(509'FSL & 1068'FEL,SEC.15)
Area	COLORADO	Well	JDB 15-9HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	JDB 15-9HZ AWB
Facility	SEC.15-T1N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
129.00	0.090	149.860	129.00	FIRST SURFACE MWD+IFR1 SURVEY
1844.00	18.590	111.800	1805.74	LAST SURFACE MWD+IFR1 SURVEY
1966.00	17.880	111.500	1921.61	FIRST BHGE MWD+IFR1+SC SURVEY
7030.00	15.534	105.321	6719.62	KOP
7868.00	62.138	12.775	7410.57	ENTER LANDBOX (31'FSL & 863'FWL,SEC.14) 40.0440915 -104.7508178
8025.00	74.684	13.556	7467.59	EXIT RADIUS HEEL (173'FSL & 897'FWL,SEC.14) 40.0444808 -104.7506945
8278.00	87.149	2.085	7512.22	LANDING (418'FSL & 935'FWL,SEC.14) 40.0451537 -104.7505612
12872.00	88.341	0.678	7498.48	ENTER RADIUS TOE (295'FNL & 965'FWL,SEC.14) 40.0577552 -104.7503464
13513.00	93.410	359.620	7492.05	LAST BHGE MWD+IFR1+SC SURVEY
13557.00	93.410	359.620	7489.43	PTB (390'FSL & 971'FWL,SEC.11) 40.0596346 -104.7503273