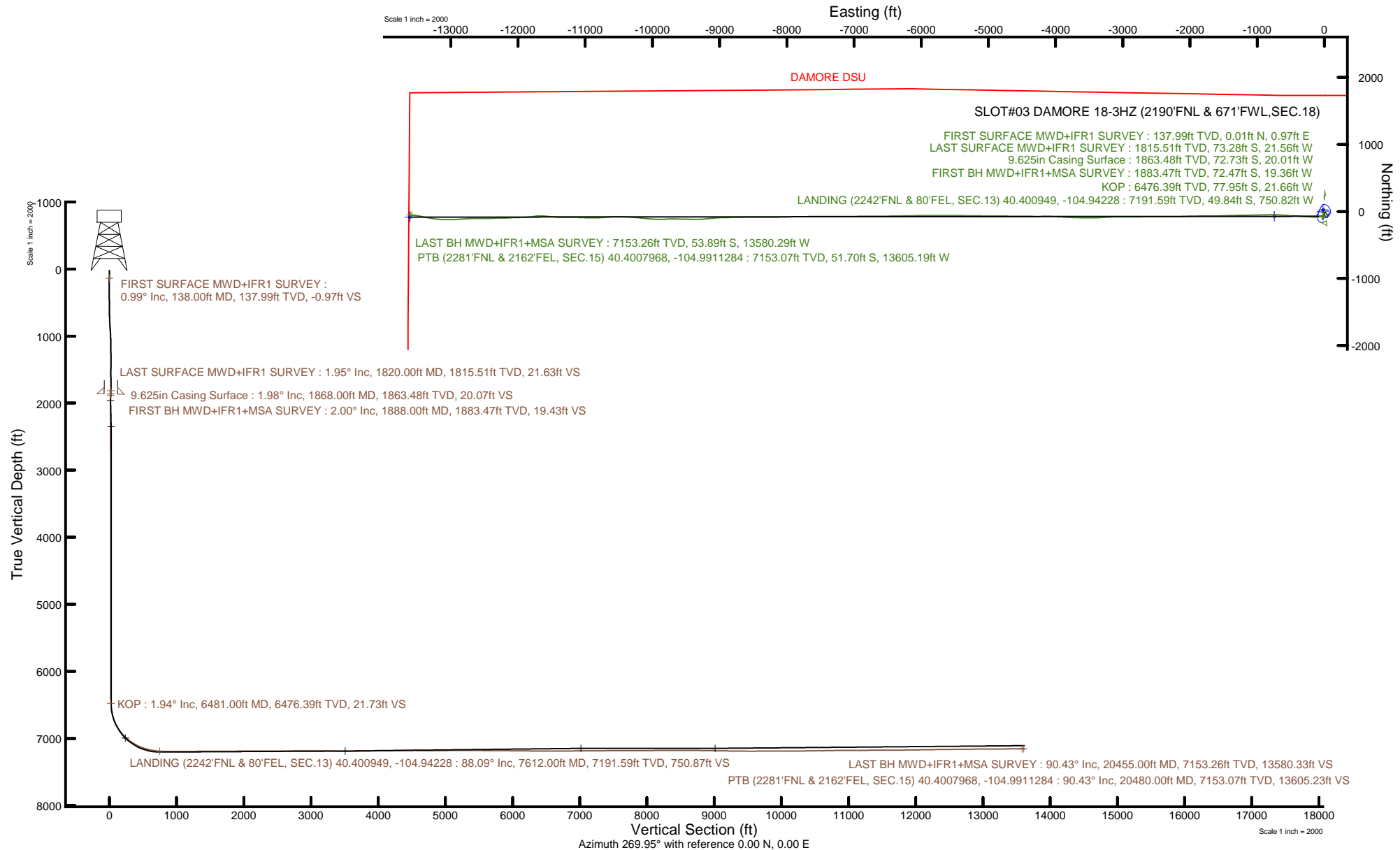


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location:	COLORADO	Slot:	SLOT#03 DAMORE 18-3HZ (2190'FNL & 671'FWL,SEC.18)
Field:	WELD COUNTY (UTM/TRUE NORTH)	Well:	DAMORE 18-3HZ
Facility:	SEC.18-T5N-R67W	Wellbore:	DAMORE 18-3HZ PWB
Plot reference wellpath is DAMORE 18-3HZ PWP Rev-B.0		Grid System: NAD83 / UTM Zone 13 North, US feet	
True vertical depths are referenced to PD564 (26') (RT)		North Reference: True north	
Reference wellpath measured depths are referenced to PD564 (26') (RT)		Scale: True distance	
PD564 (26') (RT) to Mean Sea Level: 4948 feet		Coordinates are in feet referenced to Slot	
Mean Sea Level to Mud line (At Slot: SLOT#03 DAMORE 18-3HZ (2190'FNL & 671'FWL,SEC.18)): 0 feet		Depths are in feet	
Offset wellpath MDs are referenced to each path's default MD datum		Created by: ragbyos on 2020-03-25, Database: WellArchitectDB	



Actual Wellpath Report

DAMORE 18-3HZ AWP

Page 1 of 9

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-3HZ AWB
Slot	SLOT#03 DAMORE 18-3HZ (2190'FNL & 671'FWL,SEC.18)		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 6.0
North Reference	True	User	Ragbyos
Scale	0.999600	Report Generated	3/25/2020 at 9:14:54 AM
Convergence at slot	0.04° East	Database	WellArchitectDB

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-23.13	19.19	1656486.27	14672745.52	40.4009490°	-104.9422800°
Facility Reference Pt			1656467.07	14672768.64	40.4010125°	-104.9423489°
Field Reference Pt			1698235.31	14552047.82	40.0693333°	-104.7933333°

WELLPATH DATUM

Calculation method	Minimum curvature	PD564 (26') (RT) to Facility Vertical Datum	4948.00ft
Horizontal Reference Pt	Slot	PD564 (26') (RT) to Mean Sea Level	4948.00ft
Vertical Reference Pt	PD564 (26') (RT)	PD564 (26') (RT) to Mud Line at Slot (SLOT#03 DAMORE 18-3HZ (2190'FNL & 671'FWL,SEC.18))	4948.00ft
MD Reference Pt	PD564 (26') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	269.95°

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-3HZ AWB
Slot	SLOT#03 DAMORE 18-3HZ (2190'FNL & 671'FWL,SEC.18)		

WELLPATH DATA (229 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	89.640	0.00	0.00	0.00	0.00	1656486.27	14672745.52	40.4009490	-104.9422800	0.00	
26.00	0.000	89.640	26.00	0.00	0.00	0.00	1656486.27	14672745.52	40.4009490	-104.9422800	0.00	
138.00	0.990	89.640	137.99	-0.97	0.01	0.97	1656487.24	14672745.53	40.4009490	-104.9422765	0.88	FIRST SURFACE MWD+IFR1 SURVEY
233.00	1.630	52.700	232.97	-2.86	0.83	2.86	1656489.13	14672746.36	40.4009513	-104.9422697	1.08	
328.00	0.900	322.100	327.95	-3.48	2.24	3.48	1656489.74	14672747.76	40.4009551	-104.9422675	1.97	
423.00	1.830	228.530	422.93	-1.89	1.82	1.88	1656488.15	14672747.35	40.4009540	-104.9422732	2.20	
518.00	2.390	193.530	517.87	-0.28	-1.11	0.28	1656486.55	14672744.42	40.4009460	-104.9422790	1.45	
613.00	2.850	192.360	612.77	0.69	-5.34	-0.68	1656485.59	14672740.18	40.4009343	-104.9422825	0.49	
708.00	3.720	199.090	707.62	2.21	-10.56	-2.20	1656484.08	14672734.97	40.4009200	-104.9422879	1.00	
803.00	5.480	213.210	802.31	5.71	-17.27	-5.69	1656480.59	14672728.26	40.4009016	-104.9423004	2.19	
899.00	8.730	209.830	897.56	11.85	-27.43	-11.83	1656474.46	14672718.10	40.4008737	-104.9423225	3.41	
993.00	9.480	194.850	990.39	17.40	-41.10	-17.36	1656468.94	14672704.43	40.4008362	-104.9423423	2.64	
1089.00	7.230	181.690	1085.37	19.61	-54.78	-19.57	1656466.75	14672690.75	40.4007986	-104.9423502	3.06	
1184.00	4.940	188.070	1179.83	20.37	-64.81	-20.32	1656466.00	14672680.73	40.4007711	-104.9423529	2.51	
1279.00	2.930	253.130	1274.64	23.28	-69.57	-23.22	1656463.11	14672675.97	40.4007580	-104.9423634	4.80	
1373.00	1.840	151.990	1368.59	24.87	-71.60	-24.81	1656461.52	14672673.94	40.4007525	-104.9423691	3.99	
1468.00	1.860	65.090	1463.56	22.76	-72.29	-22.69	1656463.63	14672673.24	40.4007506	-104.9423615	2.68	
1562.00	0.310	235.340	1557.54	21.58	-71.80	-21.52	1656464.81	14672673.74	40.4007519	-104.9423573	2.30	
1658.00	1.270	233.360	1653.53	22.65	-72.58	-22.58	1656463.74	14672672.96	40.4007498	-104.9423611	1.00	
1753.00	0.630	118.470	1748.52	23.03	-73.46	-22.97	1656463.36	14672672.08	40.4007474	-104.9423625	1.72	
1820.00	1.950	72.180	1815.51	21.63	-73.28	-21.56	1656464.76	14672672.26	40.4007478	-104.9423574	2.36	LAST SURFACE MWD+IFR1 SURVEY
1888.00	2.000	67.350	1883.47	19.43	-72.47	-19.36	1656466.96	14672673.07	40.4007501	-104.9423495	0.26	FIRST BH MWD+IFR1+MSA SURVEY
1977.00	0.430	224.180	1972.45	18.23	-72.11	-18.16	1656468.16	14672673.43	40.4007511	-104.9423452	2.70	
2067.00	0.250	248.430	2062.45	18.65	-72.43	-18.58	1656467.74	14672673.11	40.4007502	-104.9423467	0.25	
2156.00	0.070	163.190	2151.45	18.81	-72.55	-18.75	1656467.58	14672672.99	40.4007499	-104.9423473	0.29	
2246.00	0.110	138.710	2241.45	18.74	-72.67	-18.67	1656467.65	14672672.87	40.4007495	-104.9423470	0.06	
2335.00	0.300	155.260	2330.45	18.58	-72.94	-18.52	1656467.80	14672672.60	40.4007488	-104.9423465	0.22	
2425.00	0.070	8.180	2420.45	18.48	-73.10	-18.41	1656467.91	14672672.44	40.4007483	-104.9423461	0.40	
2514.00	0.060	98.210	2509.45	18.42	-73.06	-18.36	1656467.96	14672672.48	40.4007485	-104.9423459	0.10	
2603.00	0.140	159.260	2598.45	18.34	-73.17	-18.27	1656468.05	14672672.38	40.4007482	-104.9423456	0.14	
2693.00	0.700	228.390	2688.45	18.71	-73.63	-18.65	1656467.68	14672671.91	40.4007469	-104.9423469	0.74	
2782.00	0.280	273.610	2777.44	19.34	-73.98	-19.27	1656467.05	14672671.56	40.4007459	-104.9423492	0.61	
2872.00	0.370	278.110	2867.44	19.84	-73.93	-19.78	1656466.55	14672671.61	40.4007461	-104.9423510	0.10	
2961.00	0.160	92.860	2956.44	20.00	-73.89	-19.94	1656466.39	14672671.65	40.4007462	-104.9423516	0.59	
3050.00	0.260	122.850	3045.44	19.71	-74.01	-19.64	1656466.68	14672671.53	40.4007459	-104.9423505	0.16	
3140.00	0.540	165.160	3135.44	19.43	-74.53	-19.36	1656466.96	14672671.01	40.4007444	-104.9423495	0.43	
3229.00	1.170	260.430	3224.43	20.22	-75.08	-20.15	1656466.17	14672670.46	40.4007429	-104.9423524	1.50	
3319.00	0.390	98.500	3314.43	20.82	-75.28	-20.76	1656465.57	14672670.26	40.4007424	-104.9423545	1.72	
3408.00	1.310	235.560	3403.42	21.36	-75.90	-21.29	1656465.03	14672669.64	40.4007407	-104.9423565	1.82	
3498.00	1.040	23.320	3493.41	21.89	-75.73	-21.82	1656464.51	14672669.81	40.4007411	-104.9423583	2.51	
3587.00	1.020	169.100	3582.41	21.42	-75.77	-21.35	1656464.98	14672669.77	40.4007410	-104.9423567	2.21	
3677.00	0.110	230.000	3672.40	21.33	-76.61	-21.27	1656465.06	14672668.93	40.4007387	-104.9423564	1.08	
3766.00	0.030	153.720	3761.40	21.39	-76.69	-21.32	1656465.01	14672668.85	40.4007385	-104.9423565	0.12	
3856.00	0.440	142.650	3851.40	21.17	-76.98	-21.10	1656465.23	14672668.56	40.4007377	-104.9423558	0.46	
3945.00	0.650	189.110	3940.40	21.04	-77.75	-20.97	1656465.35	14672667.79	40.4007356	-104.9423553	0.53	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-3HZ AWB
Slot	SLOT#03 DAMORE 18-3HZ (2190'FNL & 671'FWL,SEC.18)		

WELLPATH DATA (229 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
4035.00	0.030	87.040	4030.39	21.10	-78.26	-21.03	1656465.30	14672667.28	40.4007342	-104.9423555	0.73	
4124.00	0.030	213.770	4119.39	21.09	-78.28	-21.02	1656465.31	14672667.27	40.4007341	-104.9423555	0.06	
4214.00	0.030	14.840	4209.39	21.10	-78.27	-21.03	1656465.30	14672667.27	40.4007341	-104.9423555	0.07	
4303.00	0.100	257.540	4298.39	21.17	-78.27	-21.10	1656465.23	14672667.27	40.4007342	-104.9423557	0.13	
4393.00	0.140	19.890	4388.39	21.21	-78.18	-21.14	1656465.19	14672667.36	40.4007344	-104.9423559	0.23	
4482.00	0.070	252.080	4477.39	21.22	-78.09	-21.15	1656465.18	14672667.45	40.4007346	-104.9423559	0.21	
4572.00	0.040	279.020	4567.39	21.30	-78.11	-21.23	1656465.09	14672667.43	40.4007346	-104.9423562	0.04	
4661.00	0.030	341.510	4656.39	21.34	-78.08	-21.27	1656465.06	14672667.46	40.4007347	-104.9423564	0.04	
4751.00	0.030	231.250	4746.39	21.37	-78.07	-21.30	1656465.03	14672667.47	40.4007347	-104.9423565	0.05	
4840.00	0.070	149.000	4835.39	21.36	-78.13	-21.29	1656465.04	14672667.41	40.4007345	-104.9423564	0.08	
4930.00	0.030	293.860	4925.39	21.35	-78.17	-21.28	1656465.05	14672667.37	40.4007344	-104.9423564	0.11	
5020.00	0.060	201.870	5015.39	21.39	-78.21	-21.32	1656465.01	14672667.34	40.4007343	-104.9423565	0.08	
5109.00	0.130	282.120	5104.39	21.51	-78.23	-21.44	1656464.89	14672667.31	40.4007343	-104.9423570	0.15	
5287.00	0.090	307.280	5282.39	21.81	-78.10	-21.75	1656464.58	14672667.44	40.4007346	-104.9423581	0.03	
5377.00	0.130	321.070	5372.39	21.93	-77.98	-21.87	1656464.46	14672667.56	40.4007350	-104.9423585	0.05	
5466.00	0.140	215.940	5461.39	22.06	-77.99	-21.99	1656464.33	14672667.55	40.4007349	-104.9423590	0.24	
5556.00	0.030	108.220	5551.39	22.10	-78.08	-22.04	1656464.29	14672667.46	40.4007347	-104.9423591	0.17	
5645.00	0.030	187.300	5640.39	22.09	-78.11	-22.02	1656464.31	14672667.43	40.4007346	-104.9423590	0.04	
5735.00	0.070	138.000	5730.39	22.05	-78.18	-21.98	1656464.35	14672667.36	40.4007344	-104.9423589	0.06	
5824.00	0.150	52.970	5819.39	21.92	-78.15	-21.85	1656464.48	14672667.39	40.4007345	-104.9423585	0.18	
5913.00	0.000	327.840	5908.39	21.83	-78.08	-21.76	1656464.57	14672667.46	40.4007347	-104.9423581	0.17	
6003.00	0.040	57.030	5998.39	21.80	-78.06	-21.73	1656464.59	14672667.48	40.4007347	-104.9423580	0.04	
6182.00	0.090	65.230	6177.39	21.62	-77.97	-21.55	1656464.77	14672667.57	40.4007350	-104.9423574	0.03	
6271.00	0.100	75.510	6266.39	21.48	-77.92	-21.41	1656464.91	14672667.62	40.4007351	-104.9423569	0.02	
6360.00	0.070	67.470	6355.39	21.36	-77.88	-21.29	1656465.04	14672667.66	40.4007352	-104.9423564	0.04	
6450.00	0.090	80.060	6445.39	21.24	-77.85	-21.17	1656465.16	14672667.70	40.4007353	-104.9423560	0.03	
6481.00†	1.941	258.401	6476.39	21.73	-77.95	-21.66	1656464.67	14672667.59	40.4007350	-104.9423578	6.55	KOP
6539.00	5.740	258.450	6534.25	25.53	-78.73	-25.46	1656460.87	14672666.81	40.4007329	-104.9423714	6.55	
6628.00	11.870	274.670	6622.17	39.03	-78.87	-38.96	1656447.37	14672666.66	40.4007325	-104.9424199	7.36	
6718.00	18.620	265.970	6708.96	62.62	-79.13	-62.55	1656423.79	14672666.39	40.4007318	-104.9425046	7.90	
6807.00	27.200	264.660	6790.86	97.11	-82.03	-97.04	1656389.32	14672663.47	40.4007238	-104.9426284	9.66	
6896.00	33.990	270.580	6867.45	142.31	-83.67	-142.23	1656344.15	14672661.80	40.4007193	-104.9427907	8.34	
6986.00	41.240	272.660	6938.69	197.17	-82.04	-197.10	1656289.30	14672663.39	40.4007238	-104.9429877	8.18	
7075.00	48.580	272.800	7001.68	259.89	-79.04	-259.82	1656226.61	14672666.35	40.4007320	-104.9432128	8.25	
7165.00	56.090	274.530	7056.64	330.92	-74.44	-330.86	1656155.59	14672670.90	40.4007447	-104.9434679	8.48	
7254.00	62.650	273.420	7101.96	407.27	-69.15	-407.21	1656079.27	14672676.13	40.4007592	-104.9437421	7.45	
7344.00	71.360	273.150	7137.09	489.90	-64.42	-489.84	1655996.66	14672680.81	40.4007722	-104.9440387	9.68	
7433.00	74.960	275.080	7162.87	574.84	-58.29	-574.79	1655911.75	14672686.88	40.4007890	-104.9443437	4.55	
7523.00	80.010	272.610	7182.37	662.46	-52.42	-662.42	1655824.15	14672692.69	40.4008051	-104.9446584	6.22	
7612.00	88.090	270.750	7191.59	750.87	-49.84	-750.82	1655735.78	14672695.21	40.4008122	-104.9449758	9.31	LANDING (2242'FNL & 80'FEL, SEC.13) 40.400949, -104.94228
7701.00	89.450	269.070	7193.50	839.84	-49.98	-839.80	1655646.84	14672695.02	40.4008118	-104.9452952	2.43	
7791.00	90.000	268.140	7193.93	929.81	-52.17	-929.77	1655556.91	14672692.77	40.4008057	-104.9456183	1.20	
7880.00	90.250	269.040	7193.73	1018.79	-54.36	-1018.74	1655467.97	14672690.52	40.4007997	-104.9459377	1.05	
7970.00	89.780	268.820	7193.71	1108.77	-56.04	-1108.72	1655378.03	14672688.78	40.4007951	-104.9462608	0.58	
8148.00	90.650	269.080	7193.04	1286.74	-59.30	-1286.69	1655200.13	14672685.40	40.4007861	-104.9468998	0.51	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-3HZ AWB
Slot	SLOT#03 DAMORE 18-3HZ (2190'FNL & 671'FWL,SEC.18)		

WELLPATH DATA (229 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
8238.00	90.060	268.350	7192.48	1376.72	-61.32	-1376.67	1655110.20	14672683.33	40.4007806	-104.9472228	1.04	
8327.00	90.990	268.750	7191.67	1465.69	-63.57	-1465.63	1655021.27	14672681.02	40.4007744	-104.9475422	1.14	
8416.00	89.970	268.610	7190.92	1554.66	-65.62	-1554.60	1654932.33	14672678.91	40.4007687	-104.9478617	1.16	
8506.00	90.220	268.480	7190.77	1644.64	-67.91	-1644.58	1654842.40	14672676.57	40.4007624	-104.9481847	0.31	
8595.00	90.030	269.890	7190.58	1733.62	-69.17	-1733.56	1654753.45	14672675.25	40.4007590	-104.9485042	1.60	
8685.00	90.180	269.790	7190.42	1823.62	-69.43	-1823.56	1654663.48	14672674.94	40.4007582	-104.9488274	0.20	
8774.00	91.260	269.750	7189.30	1912.62	-69.78	-1912.55	1654574.53	14672674.52	40.4007572	-104.9491469	1.21	
8863.00	90.090	267.840	7188.25	2001.59	-71.65	-2001.52	1654485.60	14672672.59	40.4007521	-104.9494663	2.52	
8953.00	89.780	267.580	7188.35	2091.52	-75.25	-2091.45	1654395.71	14672668.94	40.4007422	-104.9497892	0.45	
9042.00	90.120	269.160	7188.43	2180.48	-77.78	-2180.41	1654306.78	14672666.35	40.4007352	-104.9501086	1.82	
9132.00	89.910	269.690	7188.40	2270.48	-78.69	-2270.41	1654216.83	14672665.39	40.4007327	-104.9504317	0.63	
9221.00	89.970	270.620	7188.50	2359.47	-78.44	-2359.41	1654127.86	14672665.57	40.4007334	-104.9507513	1.05	
9311.00	90.680	268.940	7187.99	2449.47	-78.79	-2449.40	1654037.90	14672665.17	40.4007324	-104.9510744	2.03	
9400.00	90.370	270.370	7187.17	2538.46	-79.33	-2538.39	1653948.95	14672664.57	40.4007309	-104.9513939	1.64	
9490.00	89.940	269.830	7186.93	2628.46	-79.17	-2628.39	1653858.99	14672664.67	40.4007313	-104.9517170	0.77	
9579.00	90.680	269.500	7186.45	2717.46	-79.69	-2717.39	1653770.03	14672664.09	40.4007298	-104.9520366	0.91	
9668.00	90.120	268.770	7185.83	2806.44	-81.03	-2806.37	1653681.07	14672662.69	40.4007261	-104.9523561	1.03	
9758.00	90.120	270.110	7185.64	2896.44	-81.91	-2896.37	1653591.12	14672661.75	40.4007237	-104.9526792	1.49	
9847.00	90.400	270.540	7185.23	2985.44	-81.41	-2985.36	1653502.16	14672662.20	40.4007250	-104.9529987	0.58	
9937.00	89.880	269.080	7185.01	3075.43	-81.71	-3075.36	1653412.20	14672661.84	40.4007242	-104.9533218	1.72	
10026.00	89.940	269.290	7185.15	3164.42	-82.97	-3164.35	1653323.24	14672660.52	40.4007207	-104.9536414	0.25	
10116.00	87.660	266.540	7187.04	3254.33	-86.24	-3254.26	1653233.37	14672657.19	40.4007117	-104.9539641	3.97	
10205.00	89.230	266.750	7189.45	3343.15	-91.45	-3343.07	1653144.60	14672651.93	40.4006974	-104.9542830	1.78	
10294.00	89.540	268.460	7190.41	3432.07	-95.17	-3431.98	1653055.73	14672648.15	40.4006871	-104.9546023	1.95	
10384.00	89.540	271.370	7191.13	3522.05	-95.30	-3521.97	1652965.77	14672647.96	40.4006867	-104.9549253	3.23	
10473.00	90.150	270.650	7191.37	3611.04	-93.73	-3610.96	1652876.82	14672649.47	40.4006910	-104.9552448	1.06	
10563.00	91.390	272.180	7190.16	3701.00	-91.51	-3700.92	1652786.90	14672651.63	40.4006970	-104.9555678	2.19	
10652.00	90.990	272.110	7188.31	3789.91	-88.18	-3789.83	1652698.01	14672654.90	40.4007061	-104.9558871	0.46	
10741.00	91.850	273.000	7186.11	3878.79	-84.22	-3878.72	1652609.17	14672658.81	40.4007170	-104.9562062	1.39	
10831.00	91.450	272.620	7183.52	3968.64	-79.81	-3968.57	1652519.34	14672663.16	40.4007291	-104.9565288	0.61	
10920.00	90.340	272.280	7182.13	4057.54	-76.00	-4057.48	1652430.47	14672666.90	40.4007395	-104.9568480	1.30	
11009.00	90.280	270.490	7181.64	4146.51	-73.85	-4146.45	1652341.54	14672669.00	40.4007453	-104.9571675	2.01	
11099.00	90.150	269.820	7181.31	4236.51	-73.61	-4236.44	1652251.57	14672669.18	40.4007460	-104.9574906	0.76	
11188.00	91.290	270.700	7180.19	4325.50	-73.20	-4325.43	1652162.62	14672669.53	40.4007470	-104.9578101	1.62	
11277.00	89.880	270.670	7179.28	4414.48	-72.14	-4414.42	1652073.67	14672670.53	40.4007499	-104.9581296	1.58	
11367.00	90.000	270.730	7179.37	4504.48	-71.04	-4504.41	1651983.71	14672671.57	40.4007529	-104.9584527	0.15	
11457.00	89.420	270.390	7179.83	4594.47	-70.16	-4594.41	1651893.75	14672672.39	40.4007552	-104.9587759	0.75	
11546.00	89.510	270.130	7180.66	4683.46	-69.76	-4683.40	1651804.79	14672672.74	40.4007563	-104.9590954	0.31	
11636.00	90.180	270.590	7180.90	4773.46	-69.19	-4773.40	1651714.83	14672673.25	40.4007578	-104.9594185	0.90	
11725.00	90.310	270.490	7180.52	4862.45	-68.35	-4862.40	1651625.87	14672674.03	40.4007601	-104.9597381	0.18	
11815.00	90.150	270.380	7180.16	4952.45	-67.67	-4952.39	1651535.91	14672674.65	40.4007619	-104.9600612	0.22	
11904.00	90.710	270.620	7179.49	5041.44	-66.89	-5041.39	1651446.95	14672675.37	40.4007640	-104.9603807	0.68	
11994.00	90.550	270.970	7178.51	5131.43	-65.64	-5131.37	1651357.00	14672676.56	40.4007673	-104.9607038	0.43	
12083.00	90.370	270.700	7177.79	5220.41	-64.35	-5220.36	1651268.05	14672677.80	40.4007709	-104.9610233	0.36	
12172.00	89.510	270.390	7177.88	5309.41	-63.50	-5309.35	1651179.09	14672678.58	40.4007731	-104.9613428	1.03	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-3HZ AWB
Slot	SLOT#03 DAMORE 18-3HZ (2190'FNL & 671'FWL,SEC.18)		

WELLPATH DATA (229 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
12262.00	89.850	270.520	7178.39	5399.40	-62.79	-5399.35	1651089.13	14672679.24	40.4007750	-104.9616659	0.40	
12352.00	89.380	270.630	7178.99	5489.40	-61.88	-5489.34	1650999.17	14672680.08	40.4007775	-104.9619891	0.54	
12441.00	89.320	269.950	7180.00	5578.39	-61.43	-5578.34	1650910.21	14672680.48	40.4007786	-104.9623086	0.77	
12531.00	89.570	270.280	7180.87	5668.38	-61.25	-5668.33	1650820.25	14672680.60	40.4007791	-104.9626317	0.46	
12620.00	89.570	270.460	7181.54	5757.38	-60.68	-5757.33	1650731.29	14672681.11	40.4007806	-104.9629512	0.20	
12710.00	89.630	269.160	7182.17	5847.37	-60.98	-5847.32	1650641.34	14672680.76	40.4007797	-104.9632744	1.45	
12799.00	89.510	269.740	7182.84	5936.37	-61.83	-5936.32	1650552.38	14672679.85	40.4007773	-104.9635939	0.67	
12889.00	89.380	269.530	7183.71	6026.36	-62.40	-6026.31	1650462.42	14672679.21	40.4007757	-104.9639170	0.27	
12978.00	89.630	269.390	7184.48	6115.36	-63.24	-6115.30	1650373.47	14672678.32	40.4007733	-104.9642365	0.32	
13068.00	89.170	268.810	7185.42	6205.34	-64.65	-6205.29	1650283.52	14672676.85	40.4007694	-104.9645596	0.82	
13157.00	88.340	268.140	7187.35	6294.29	-67.02	-6294.23	1650194.61	14672674.42	40.4007628	-104.9648789	1.20	
13247.00	89.820	269.360	7188.80	6384.25	-68.99	-6384.19	1650104.68	14672672.40	40.4007574	-104.9652019	2.13	
13336.00	89.970	269.790	7188.96	6473.25	-69.65	-6473.19	1650015.72	14672671.68	40.4007555	-104.9655215	0.51	
13425.00	90.280	269.420	7188.77	6562.25	-70.26	-6562.19	1649926.76	14672671.01	40.4007537	-104.9658410	0.54	
13515.00	90.400	269.760	7188.23	6652.25	-70.90	-6652.18	1649836.80	14672670.31	40.4007519	-104.9661641	0.40	
13605.00	90.220	269.390	7187.75	6742.24	-71.57	-6742.18	1649746.84	14672669.58	40.4007500	-104.9664873	0.46	
13694.00	90.490	269.780	7187.20	6831.24	-72.22	-6831.18	1649657.88	14672668.88	40.4007482	-104.9668068	0.53	
13784.00	90.580	269.580	7186.35	6921.23	-72.72	-6921.17	1649567.93	14672668.32	40.4007467	-104.9671299	0.24	
13873.00	90.150	269.470	7185.79	7010.23	-73.46	-7010.17	1649478.97	14672667.52	40.4007446	-104.9674494	0.50	
13962.00	90.800	270.060	7185.05	7099.22	-73.82	-7099.16	1649390.01	14672667.10	40.4007436	-104.9677690	0.99	
14052.00	90.180	269.560	7184.28	7189.22	-74.12	-7189.16	1649300.05	14672666.74	40.4007427	-104.9680921	0.88	
14142.00	90.400	269.740	7183.82	7279.22	-74.67	-7279.15	1649210.09	14672666.13	40.4007411	-104.9684152	0.32	
14231.00	90.430	269.900	7183.18	7368.21	-74.95	-7368.15	1649121.13	14672665.80	40.4007402	-104.9687348	0.18	
14321.00	90.180	269.950	7182.70	7458.21	-75.07	-7458.15	1649031.16	14672665.62	40.4007398	-104.9690579	0.28	
14410.00	90.680	269.920	7182.03	7547.21	-75.17	-7547.15	1648942.20	14672665.46	40.4007395	-104.9693774	0.56	
14499.00	90.180	269.340	7181.37	7636.21	-75.74	-7636.14	1648853.24	14672664.83	40.4007378	-104.9696970	0.86	
14589.00	90.520	269.230	7180.82	7726.20	-76.87	-7726.13	1648763.29	14672663.65	40.4007347	-104.9700201	0.40	
14678.00	90.520	269.780	7180.01	7815.19	-77.63	-7815.13	1648674.33	14672662.82	40.4007325	-104.9703396	0.62	
14768.00	89.350	269.310	7180.11	7905.19	-78.35	-7905.12	1648584.38	14672662.05	40.4007305	-104.9706627	1.40	
14857.00	90.370	269.020	7180.33	7994.18	-79.65	-7994.11	1648495.42	14672660.69	40.4007268	-104.9709822	1.19	
14947.00	90.150	267.760	7179.92	8084.14	-82.17	-8084.07	1648405.50	14672658.11	40.4007198	-104.9713052	1.42	
15036.00	91.230	270.470	7178.85	8173.12	-83.55	-8173.04	1648316.56	14672656.67	40.4007159	-104.9716247	3.28	
15126.00	90.060	269.900	7177.83	8263.11	-83.26	-8263.04	1648226.61	14672656.91	40.4007167	-104.9719478	1.45	
15215.00	90.340	269.770	7177.52	8352.11	-83.51	-8352.04	1648137.64	14672656.59	40.4007159	-104.9722673	0.35	
15305.00	89.940	269.930	7177.30	8442.11	-83.75	-8442.03	1648047.68	14672656.30	40.4007151	-104.9725904	0.48	
15394.00	89.450	269.260	7177.78	8531.10	-84.38	-8531.03	1647958.72	14672655.61	40.4007133	-104.9729100	0.93	
15484.00	89.320	268.960	7178.74	8621.09	-85.78	-8621.01	1647868.77	14672654.15	40.4007094	-104.9732331	0.36	
15573.00	90.030	269.460	7179.25	8710.08	-87.00	-8710.00	1647779.82	14672652.87	40.4007060	-104.9735526	0.98	
15662.00	89.170	268.590	7179.87	8799.06	-88.52	-8798.99	1647690.88	14672651.30	40.4007017	-104.9738720	1.37	
15752.00	88.740	268.730	7181.51	8889.02	-90.62	-8888.95	1647600.95	14672649.14	40.4006958	-104.9741950	0.50	
15842.00	90.060	268.470	7182.45	8978.99	-92.82	-8978.91	1647511.02	14672646.88	40.4006897	-104.9745181	1.49	
15931.00	88.430	265.820	7183.63	9067.87	-97.25	-9067.78	1647422.19	14672642.39	40.4006775	-104.9748371	3.50	
16020.00	89.260	263.790	7185.42	9156.49	-105.31	-9156.40	1647333.62	14672634.28	40.4006553	-104.9751553	2.46	
16110.00	88.770	264.790	7186.97	9246.03	-114.26	-9245.93	1647244.12	14672625.27	40.4006306	-104.9754767	1.24	
16199.00	89.540	270.340	7188.28	9334.91	-118.04	-9334.81	1647155.29	14672621.44	40.4006201	-104.9757958	6.29	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-3HZ AWB
Slot	SLOT#03 DAMORE 18-3HZ (2190'FNL & 671'FWL,SEC.18)		

WELLPATH DATA (229 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
16288.00	89.350	271.250	7189.14	9423.90	-116.81	-9423.79	1647066.34	14672622.61	40.4006234	-104.9761153	1.04	
16377.00	89.780	270.290	7189.82	9512.88	-115.61	-9512.78	1646977.38	14672623.75	40.4006266	-104.9764348	1.18	
16466.00	90.250	272.450	7189.80	9601.85	-113.48	-9601.75	1646888.45	14672625.82	40.4006324	-104.9767543	2.48	
16556.00	90.000	270.160	7189.60	9691.82	-111.43	-9691.72	1646798.51	14672627.81	40.4006379	-104.9770773	2.56	
16646.00	90.370	266.560	7189.31	9781.77	-114.01	-9781.67	1646708.60	14672625.18	40.4006307	-104.9774003	4.02	
16735.00	90.180	268.950	7188.88	9870.69	-117.50	-9870.59	1646619.72	14672621.63	40.4006211	-104.9777195	2.69	
16825.00	90.090	273.030	7188.67	9960.66	-115.94	-9960.56	1646529.79	14672623.13	40.4006252	-104.9780425	4.53	
16914.00	90.550	274.870	7188.17	10049.44	-109.81	-10049.34	1646441.03	14672629.20	40.4006420	-104.9783613	2.13	
17004.00	90.520	276.510	7187.33	10138.98	-100.89	-10138.89	1646351.51	14672638.06	40.4006663	-104.9786829	1.82	
17093.00	89.570	274.570	7187.26	10227.55	-92.30	-10227.47	1646262.97	14672646.59	40.4006898	-104.9790009	2.43	
17183.00	90.990	273.730	7186.82	10317.31	-85.78	-10317.23	1646173.24	14672653.04	40.4007076	-104.9793232	1.83	
17272.00	90.860	272.270	7185.38	10406.17	-81.13	-10406.10	1646084.41	14672657.64	40.4007203	-104.9796423	1.65	
17362.00	91.380	271.500	7183.63	10496.10	-78.17	-10496.03	1645994.51	14672660.54	40.4007283	-104.9799652	1.03	
17452.00	89.350	267.400	7183.05	10586.07	-79.03	-10586.00	1645904.57	14672659.62	40.4007258	-104.9802882	5.08	
17541.00	91.880	264.840	7182.10	10674.85	-85.05	-10674.78	1645815.84	14672653.54	40.4007092	-104.9806069	4.04	
17631.00	90.710	266.470	7180.06	10764.57	-91.87	-10764.49	1645726.16	14672646.67	40.4006904	-104.9809290	2.23	
17720.00	90.710	269.170	7178.96	10853.49	-95.25	-10853.41	1645637.28	14672643.23	40.4006810	-104.9812483	3.03	
17810.00	90.430	271.220	7178.06	10943.48	-94.95	-10943.40	1645547.33	14672643.47	40.4006817	-104.9815714	2.30	
17899.00	90.250	272.040	7177.54	11032.44	-92.41	-11032.36	1645458.40	14672645.95	40.4006885	-104.9818908	0.94	
17989.00	89.970	272.240	7177.36	11122.37	-89.05	-11122.30	1645368.50	14672649.25	40.4006977	-104.9822137	0.38	
18078.00	90.220	268.650	7177.22	11211.36	-88.36	-11211.28	1645279.55	14672649.88	40.4006994	-104.9825332	4.04	
18167.00	91.080	270.020	7176.21	11300.34	-89.40	-11300.27	1645190.60	14672648.79	40.4006965	-104.9828527	1.82	
18257.00	90.090	272.770	7175.29	11390.30	-87.20	-11390.23	1645100.68	14672650.92	40.4007024	-104.9831757	3.25	
18346.00	90.180	275.720	7175.08	11479.04	-80.62	-11478.97	1645011.96	14672657.45	40.4007204	-104.9834943	3.32	
18435.00	90.650	274.430	7174.43	11567.68	-72.74	-11567.62	1644923.35	14672665.26	40.4007419	-104.9838126	1.54	
18525.00	89.850	271.440	7174.04	11657.55	-68.14	-11657.49	1644833.51	14672669.81	40.4007544	-104.9841353	3.44	
18614.00	90.310	263.590	7173.92	11746.40	-71.99	-11746.34	1644744.70	14672665.89	40.4007437	-104.9844543	8.84	
18703.00	90.650	263.800	7173.17	11834.86	-81.77	-11834.79	1644656.28	14672656.07	40.4007168	-104.9847719	0.45	
18793.00	90.890	268.150	7171.96	11924.62	-88.08	-11924.54	1644566.58	14672649.69	40.4006993	-104.9850941	4.84	
18883.00	90.950	268.490	7170.51	12014.57	-90.72	-12014.49	1644476.66	14672647.00	40.4006919	-104.9854171	0.38	
18972.00	90.800	267.130	7169.16	12103.49	-94.12	-12103.41	1644387.78	14672643.54	40.4006825	-104.9857363	1.54	
19061.00	91.020	268.820	7167.74	12192.43	-97.27	-12192.34	1644298.89	14672640.34	40.4006737	-104.9860556	1.91	
19151.00	90.740	269.120	7166.36	12282.40	-98.88	-12282.32	1644208.95	14672638.66	40.4006692	-104.9863786	0.46	
19240.00	90.770	267.550	7165.19	12371.36	-101.47	-12371.27	1644120.04	14672636.02	40.4006619	-104.9866980	1.76	
19330.00	90.740	268.260	7164.00	12461.29	-104.76	-12461.20	1644030.14	14672632.67	40.4006528	-104.9870209	0.79	
19419.00	90.520	270.400	7163.02	12550.27	-105.80	-12550.19	1643941.20	14672631.58	40.4006498	-104.9873404	2.42	
19509.00	90.950	270.260	7161.87	12640.27	-105.28	-12640.18	1643851.24	14672632.04	40.4006511	-104.9876635	0.50	
19598.00	90.310	267.230	7160.89	12729.23	-107.23	-12729.14	1643762.32	14672630.03	40.4006456	-104.9879829	3.48	
19688.00	90.620	265.620	7160.16	12819.05	-112.84	-12818.96	1643672.54	14672624.36	40.4006301	-104.9883054	1.82	
19777.00	90.400	266.770	7159.37	12907.86	-118.75	-12907.76	1643583.78	14672618.40	40.4006138	-104.9886242	1.32	
19866.00	90.280	269.050	7158.84	12996.79	-121.99	-12996.69	1643494.88	14672615.10	40.4006047	-104.9889435	2.57	
19956.00	89.940	270.840	7158.66	13086.79	-122.08	-13086.69	1643404.92	14672614.95	40.4006044	-104.9892666	2.02	
20045.00	90.430	275.260	7158.38	13175.64	-117.34	-13175.54	1643316.10	14672619.63	40.4006172	-104.9895856	5.00	
20135.00	90.580	277.800	7157.58	13265.03	-107.11	-13264.94	1643226.73	14672629.80	40.4006452	-104.9899067	2.83	
20224.00	91.570	281.530	7155.91	13352.72	-92.17	-13352.65	1643139.05	14672644.67	40.4006861	-104.9902216	4.34	

REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-3HZ AWB
Slot	SLOT#03 DAMORE 18-3HZ (2190'FNL & 671'FWL,SEC.18)		

WELLPATH DATA (229 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
20313.00	90.890	281.170	7154.00	13439.95	-74.66	-13439.89	1643051.83	14672662.12	40.4007340	-104.9905348	0.86	
20403.00	89.880	277.910	7153.40	13528.67	-59.75	-13528.63	1642963.12	14672676.97	40.4007748	-104.9908535	3.79	
20455.00	90.430	275.030	7153.26	13580.33	-53.89	-13580.29	1642911.47	14672682.79	40.4007908	-104.9910390	5.64	LAST BH MWD+IFR1+MSA SURVEY
20480.00‡	90.430	275.030	7153.07	13605.23	-51.70	-13605.19	1642886.58	14672684.97	40.4007968	-104.9911284	0.00	PTB (2281'FNL & 2162'FEL, SEC.15) 40.4007968, -104.9911284

HOLE & CASING SECTIONS - Ref Wellbore: DAMORE 18-3HZ AWB Ref Wellpath: DAMORE 18-3HZ 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	26.00	1868.00	1842.00	26.00	1863.48	0.00	0.00	-72.73	-20.01

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
DAMORE DSU	16.00	22.95	-19.22	1656467.04	14672768.45	40.4010120	-104.9423490	polygon
2D Polygon: dimensions not calculated								
SEC.13-T5N-R67W	16.00	-968.98	-1239.53	1655247.87	14671776.13	40.3982892	-104.9467303	polygon
2D Polygon: dimensions not calculated								
SEC.14-T5N-R67W	16.00	-968.98	-1239.53	1655247.87	14671776.13	40.3982892	-104.9467303	polygon
2D Polygon: dimensions not calculated								
SEC.15-T5N-R67W	16.00	-974.98	-1239.53	1655247.87	14671770.13	40.3982727	-104.9467303	polygon
2D Polygon: dimensions not calculated								
SEC.17-T5N-R67W	16.00	-954.98	-1239.53	1655247.86	14671790.12	40.3983276	-104.9467303	polygon
2D Polygon: dimensions not calculated								
SEC.18-T5N-R67W	16.00	-954.98	-1239.53	1655247.86	14671790.12	40.3983276	-104.9467303	polygon
2D Polygon: dimensions not calculated								
DAMORE 18-3HZ BHL REV-2 (2314'FNL & 2169'FEL,SEC.15)	7108.00	-84.72	-13611.93	1642879.86	14672651.95	40.4007061	-104.9911525	point
DAMORE 18-3HZ HEEL REV-1 (2265'FNL & 75'FEL,SEC.13)	7203.00	-73.22	-747.27	1655739.35	14672671.85	40.4007480	-104.9449630	point

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-3HZ AWB
Slot	SLOT#03 DAMORE 18-3HZ (2190'FNL & 671'FWL,SEC.18)		

WELLPATH COMPOSITION - Ref Wellbore: DAMORE 18-3HZ AWB Ref Wellpath: DAMORE 18-3HZ AWP					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	1820.00	Custom APC_ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <120 - 1802 >	DAMORE 18-3HZ AWB	2/25/2020
1820.00	20480.00	Custom APC_ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BH Custom APC ISCWSA Rev-2 MWD+IFR1+MSA<1888 - 20455 >	DAMORE 18-3HZ AWB	3/19/2020

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-3HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-3HZ AWB
Slot	SLOT#03 DAMORE 18-3HZ (2190'FNL & 671'FWL,SEC.18)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
138.00	0.990	89.640	137.99	FIRST SURFACE MWD+IFR1 SURVEY
1820.00	1.950	72.180	1815.51	LAST SURFACE MWD+IFR1 SURVEY
1888.00	2.000	67.350	1883.47	FIRST BH MWD+IFR1+MSA SURVEY
6481.00	1.941	258.401	6476.39	KOP
7612.00	88.090	270.750	7191.59	LANDING (2242'FNL & 80'FEL, SEC.13) 40.400949, -104.94228
20455.00	90.430	275.030	7153.26	LAST BH MWD+IFR1+MSA SURVEY
20480.00	90.430	275.030	7153.07	PTB (2281'FNL & 2162'FEL, SEC.15) 40.4007968, -104.9911284