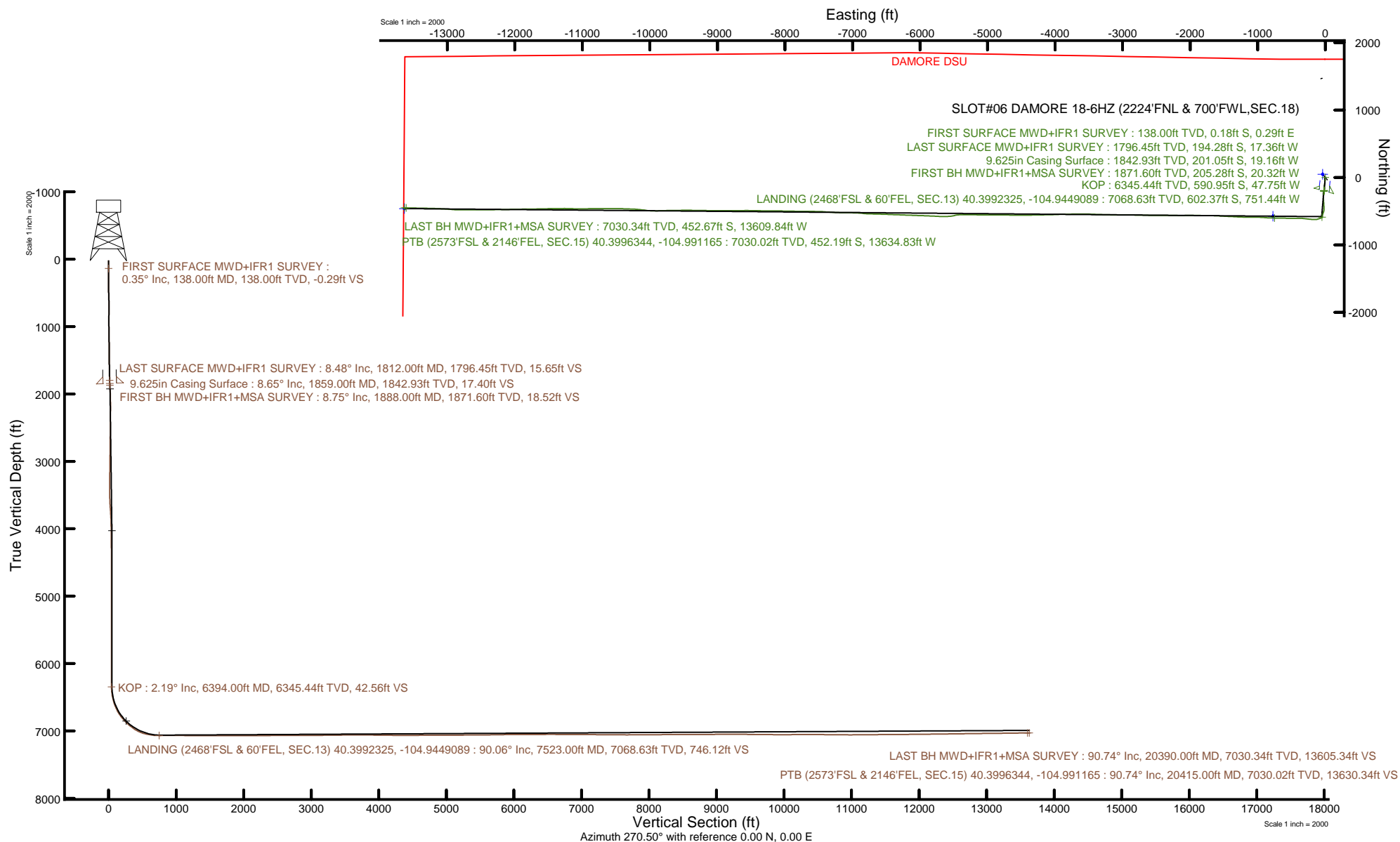


# KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#05 DAMORE 18-5HZ (2213'FNL & 691'FWL, SEC.18)  
Field: WELD COUNTY (UTM/TRUE NORTH) Well: DAMORE 18-5HZ  
Facility: SEC.18-T5N-R67W Wellbore: DAMORE 18-5HZ PWB



Plot reference wellpath is DAMORE 18-5HZ 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#05 DAMORE 18-5HZ (2213'FNL & 691'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 2020-04-02, Database: WellArchitectDB



# Actual Wellpath Report

DAMORE 18-5HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-5HZ AWB
Slot	SLOT#05 DAMORE 18-5HZ (2213'FNL & 691'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	4/2/2020 at 9:47:54 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	-46.09	38.40	1656505.49	14672722.59	40.4008860°	-104.9422110°
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#05 DAMORE 18-5HZ (2213'FNL & 691'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	270.50°

### REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-5HZ AWB
Slot	SLOT#05 DAMORE 18-5HZ (2213'FNL & 691'FWL,SEC.18)		

### WELLPATH DATA (230 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	122.130	0.00	0.00	0.00	0.00	1656505.49	14672722.59	40.4008860	-104.9422110	0.00	
26.00	0.000	122.130	26.00	0.00	0.00	0.00	1656505.49	14672722.59	40.4008860	-104.9422110	0.00	
138.00	0.350	122.130	138.00	-0.29	-0.18	0.29	1656505.78	14672722.41	40.4008855	-104.9422100	0.31	FIRST SURFACE MWD+IFR1 SURVEY
233.00	0.380	129.430	233.00	-0.78	-0.54	0.78	1656506.27	14672722.06	40.4008845	-104.9422082	0.06	
328.00	0.400	121.150	328.00	-1.31	-0.91	1.31	1656506.80	14672721.69	40.4008835	-104.9422063	0.06	
423.00	1.210	226.690	422.99	-0.88	-1.77	0.86	1656506.35	14672720.83	40.4008811	-104.9422079	1.44	
518.00	2.960	214.870	517.92	1.23	-4.47	-1.27	1656504.22	14672718.13	40.4008737	-104.9422156	1.89	
613.00	4.590	199.280	612.71	3.84	-10.07	-3.93	1656501.57	14672712.53	40.4008584	-104.9422251	2.01	
708.00	5.510	180.370	707.35	5.05	-18.22	-5.21	1656500.29	14672704.38	40.4008360	-104.9422297	1.99	
803.00	5.700	170.940	801.90	4.26	-27.44	-4.50	1656501.01	14672695.16	40.4008107	-104.9422272	0.99	
899.00	5.990	178.880	897.40	3.33	-37.15	-3.65	1656501.87	14672685.45	40.4007840	-104.9422241	0.89	
993.00	8.990	184.600	990.59	3.71	-49.38	-4.15	1656501.38	14672673.23	40.4007505	-104.9422259	3.28	
1089.00	10.530	183.150	1085.20	4.65	-65.62	-5.23	1656500.31	14672657.00	40.4007059	-104.9422298	1.62	
1184.00	10.140	187.600	1178.66	6.09	-82.58	-6.81	1656498.74	14672640.05	40.4006593	-104.9422355	0.93	
1279.00	11.030	188.400	1272.04	8.37	-99.86	-9.25	1656496.32	14672622.77	40.4006119	-104.9422442	0.95	
1373.00	11.650	182.080	1364.21	9.87	-118.24	-10.90	1656494.67	14672604.40	40.4005615	-104.9422502	1.48	
1468.00	9.700	179.430	1457.56	9.98	-135.83	-11.17	1656494.41	14672586.81	40.4005132	-104.9422511	2.12	
1562.00	9.860	183.130	1550.20	10.20	-151.78	-11.53	1656494.06	14672570.87	40.4004694	-104.9422524	0.69	
1658.00	10.610	184.030	1644.67	11.12	-168.81	-12.60	1656493.00	14672553.85	40.4004226	-104.9422563	0.80	
1753.00	9.650	193.620	1738.19	13.47	-185.27	-15.09	1656490.53	14672537.39	40.4003775	-104.9422652	2.04	
1812.00	8.480	194.670	1796.45	15.65	-194.28	-17.36	1656488.27	14672528.38	40.4003527	-104.9422733	2.00	LAST SURFACE MWD+IFR1 SURVEY
1888.00	8.750	195.510	1871.60	18.52	-205.28	-20.32	1656485.31	14672517.39	40.4003225	-104.9422840	0.39	FIRST BH MWD+IFR1+MSA SURVEY
1977.00	9.430	197.830	1959.48	22.45	-218.74	-24.37	1656481.28	14672503.93	40.4002856	-104.9422985	0.87	
2067.00	9.950	188.820	2048.20	25.77	-233.44	-27.82	1656477.84	14672489.23	40.4002452	-104.9423109	1.78	
2156.00	10.050	184.480	2135.85	27.42	-248.78	-29.60	1656476.06	14672473.89	40.4002031	-104.9423173	0.85	
2246.00	10.070	176.510	2224.47	27.41	-264.47	-29.74	1656475.94	14672458.21	40.4001601	-104.9423178	1.55	
2335.00	10.090	177.080	2312.10	26.41	-280.02	-28.87	1656476.82	14672442.67	40.4001174	-104.9423146	0.11	
2425.00	10.140	178.770	2400.70	25.70	-295.81	-28.30	1656477.40	14672426.88	40.4000740	-104.9423126	0.33	
2514.00	9.900	179.840	2488.34	25.37	-311.30	-28.11	1656477.60	14672411.40	40.4000315	-104.9423119	0.34	
2604.00	9.750	175.670	2577.02	24.64	-326.63	-27.51	1656478.21	14672396.08	40.3999894	-104.9423098	0.81	
2693.00	9.890	173.980	2664.72	23.14	-341.75	-26.14	1656479.59	14672380.97	40.3999479	-104.9423048	0.36	
2782.00	9.940	176.400	2752.39	21.72	-357.02	-24.85	1656480.88	14672365.71	40.3999060	-104.9423002	0.47	
2872.00	9.450	177.900	2841.10	20.83	-372.15	-24.10	1656481.65	14672350.58	40.3998645	-104.9422975	0.61	
2961.00	9.750	178.230	2928.86	20.20	-386.99	-23.60	1656482.16	14672335.75	40.3998238	-104.9422957	0.34	
3051.00	9.850	177.530	3017.54	19.50	-402.29	-23.03	1656482.74	14672320.45	40.3997817	-104.9422937	0.17	
3140.00	9.770	173.470	3105.24	18.18	-417.40	-21.84	1656483.93	14672305.35	40.3997403	-104.9422894	0.78	
3229.00	9.910	172.150	3192.93	16.14	-432.49	-19.94	1656485.85	14672290.26	40.3996989	-104.9422826	0.30	
3319.00	9.690	179.680	3281.62	14.90	-447.74	-18.84	1656486.96	14672275.02	40.3996570	-104.9422786	1.44	
3408.00	9.590	185.300	3369.37	15.42	-462.61	-19.48	1656486.32	14672260.16	40.3996162	-104.9422809	1.06	
3498.00	9.980	180.610	3458.06	16.06	-477.87	-20.25	1656485.56	14672244.90	40.3995743	-104.9422837	0.99	
3588.00	10.420	186.720	3546.64	16.95	-493.75	-21.29	1656484.53	14672229.02	40.3995307	-104.9422874	1.30	
3677.00	10.520	198.400	3634.17	20.32	-509.46	-24.80	1656481.04	14672213.32	40.3994876	-104.9423000	2.38	
3767.00	9.870	204.910	3722.75	26.04	-524.25	-30.64	1656475.21	14672198.53	40.3994470	-104.9423210	1.47	
3856.00	9.630	199.090	3810.47	31.56	-538.20	-36.29	1656469.57	14672184.58	40.3994087	-104.9423413	1.14	
3945.00	7.810	193.100	3898.44	35.25	-551.13	-40.09	1656465.78	14672171.66	40.3993732	-104.9423549	2.28	

# Actual Wellpath Report

DAMORE 18-5HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-5HZ AWB
Slot	SLOT#05 DAMORE 18-5HZ (2213'FNL & 691'FWL,SEC.18)		

## WELLPATH DATA (230 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	6.240	187.890	3987.76	37.22	-561.93	-42.15	1656463.73	14672160.86	40.3993436	-104.9423623	1.88	
4124.00	7.090	181.210	4076.16	37.91	-572.21	-42.93	1656462.95	14672150.58	40.3993153	-104.9423651	1.29	
4214.00	4.520	188.480	4165.69	38.47	-581.28	-43.57	1656462.32	14672141.52	40.3992905	-104.9423674	2.96	
4304.00	2.640	207.390	4255.51	39.90	-586.63	-45.05	1656460.85	14672136.17	40.3992758	-104.9423727	2.44	
4483.00	0.090	356.290	4434.45	41.77	-590.15	-46.95	1656458.94	14672132.65	40.3992661	-104.9423796	1.52	
4572.00	0.030	292.760	4523.45	41.80	-590.07	-46.98	1656458.92	14672132.73	40.3992663	-104.9423797	0.09	
4661.00	0.030	172.750	4612.45	41.82	-590.08	-47.00	1656458.90	14672132.72	40.3992663	-104.9423797	0.06	
4751.00	0.060	285.380	4702.45	41.86	-590.09	-47.04	1656458.86	14672132.71	40.3992663	-104.9423799	0.09	
4841.00	0.070	266.110	4792.45	41.96	-590.08	-47.14	1656458.76	14672132.72	40.3992663	-104.9423803	0.03	
4930.00	0.000	250.310	4881.45	42.01	-590.09	-47.19	1656458.70	14672132.71	40.3992663	-104.9423804	0.08	
5020.00	0.060	258.620	4971.45	42.06	-590.10	-47.24	1656458.66	14672132.70	40.3992662	-104.9423806	0.07	
5109.00	0.030	292.060	5060.45	42.13	-590.10	-47.31	1656458.59	14672132.70	40.3992662	-104.9423809	0.04	
5198.00	0.070	297.240	5149.45	42.20	-590.06	-47.38	1656458.52	14672132.74	40.3992663	-104.9423811	0.05	
5288.00	0.040	195.520	5239.45	42.25	-590.07	-47.44	1656458.46	14672132.73	40.3992663	-104.9423813	0.10	
5377.00	0.220	170.670	5328.45	42.23	-590.27	-47.42	1656458.48	14672132.53	40.3992658	-104.9423812	0.21	
5467.00	0.300	314.570	5418.45	42.37	-590.27	-47.56	1656458.34	14672132.53	40.3992658	-104.9423817	0.55	
5556.00	0.040	335.170	5507.45	42.55	-590.08	-47.73	1656458.16	14672132.72	40.3992663	-104.9423824	0.30	
5645.00	0.030	329.120	5596.45	42.58	-590.03	-47.76	1656458.14	14672132.77	40.3992664	-104.9423825	0.01	
5735.00	0.040	324.250	5686.45	42.61	-589.99	-47.79	1656458.11	14672132.81	40.3992665	-104.9423826	0.01	
5824.00	0.030	350.740	5775.45	42.63	-589.94	-47.81	1656458.09	14672132.86	40.3992667	-104.9423827	0.02	
5913.00	0.030	96.200	5864.45	42.61	-589.92	-47.79	1656458.10	14672132.88	40.3992667	-104.9423826	0.05	
6003.00	0.040	115.340	5954.45	42.56	-589.93	-47.74	1656458.16	14672132.87	40.3992667	-104.9423824	0.02	
6092.00	0.090	67.750	6043.45	42.47	-589.92	-47.65	1656458.25	14672132.88	40.3992667	-104.9423821	0.08	
6182.00	0.040	133.940	6133.45	42.38	-589.92	-47.56	1656458.34	14672132.88	40.3992667	-104.9423818	0.09	
6271.00	0.280	142.260	6222.45	42.22	-590.11	-47.40	1656458.49	14672132.69	40.3992662	-104.9423812	0.27	
6360.00	0.160	210.790	6311.45	42.15	-590.39	-47.34	1656458.56	14672132.41	40.3992654	-104.9423809	0.30	
6394.00†	2.192	216.575	6345.44	42.56	-590.95	-47.75	1656458.15	14672131.85	40.3992639	-104.9423824	5.98	KOP
6450.00	5.540	216.850	6401.30	44.79	-593.98	-50.01	1656455.89	14672128.83	40.3992556	-104.9423905	5.98	
6539.00	12.030	245.910	6489.25	55.79	-601.21	-61.07	1656444.84	14672121.59	40.3992357	-104.9424303	8.62	
6629.00	18.420	248.330	6576.05	77.51	-610.30	-82.87	1656423.06	14672112.49	40.3992108	-104.9425085	7.13	
6718.00	24.850	255.860	6658.75	108.66	-620.07	-114.11	1656391.84	14672102.70	40.3991840	-104.9426207	7.86	
6807.00	30.980	270.100	6737.44	149.74	-624.61	-155.23	1656350.73	14672098.14	40.3991715	-104.9427683	10.13	
6896.00	39.690	274.230	6809.99	201.11	-622.47	-206.59	1656299.40	14672100.24	40.3991774	-104.9429527	10.14	
6986.00	46.050	277.610	6875.93	262.01	-616.05	-267.43	1656238.57	14672106.62	40.3991950	-104.9431712	7.51	
7075.00	51.660	275.340	6934.47	328.64	-608.55	-333.99	1656172.03	14672114.07	40.3992156	-104.9434102	6.59	
7165.00	58.700	269.210	6985.86	402.39	-605.79	-407.72	1656098.33	14672116.78	40.3992232	-104.9436749	9.61	
7254.00	69.010	269.050	7025.02	482.15	-607.01	-487.50	1656018.59	14672115.51	40.3992198	-104.9439613	11.59	
7344.00	78.250	272.200	7050.37	568.40	-606.01	-573.74	1655932.38	14672116.45	40.3992225	-104.9442709	10.80	
7433.00	84.080	271.410	7064.03	656.28	-603.25	-661.60	1655844.55	14672119.16	40.3992301	-104.9445864	6.61	
7523.00	90.060	269.710	7068.63	746.12	-602.37	-751.44	1655754.75	14672119.97	40.3992325	-104.9449089	6.91	LANDING (2468'FSL & 60'FEL, SEC.13) 40.3992325, -104.9449089
7612.00	90.460	273.150	7068.22	835.09	-600.15	-840.39	1655665.83	14672122.13	40.3992386	-104.9452283	3.89	
7702.00	90.120	274.560	7067.77	924.93	-594.10	-930.19	1655576.07	14672128.12	40.3992552	-104.9455507	1.61	
7791.00	89.910	270.290	7067.74	1013.86	-590.34	-1019.09	1655487.20	14672131.83	40.3992655	-104.9458699	4.80	
7880.00	89.380	270.350	7068.30	1102.86	-589.84	-1108.08	1655398.24	14672132.27	40.3992669	-104.9461894	0.60	
7970.00	89.940	270.380	7068.83	1192.86	-589.27	-1198.08	1655308.28	14672132.78	40.3992684	-104.9465125	0.62	

# Actual Wellpath Report

DAMORE 18-5HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-5HZ AWB
Slot	SLOT#05 DAMORE 18-5HZ (2213'FNL & 691'FWL,SEC.18)		

## WELLPATH DATA (230 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
8059.00	90.150	272.980	7068.76	1281.83	-586.66	-1287.03	1655219.36	14672135.33	40.3992756	-104.9468319	2.93	
8148.00	89.880	273.060	7068.74	1370.75	-581.97	-1375.91	1655130.52	14672139.96	40.3992884	-104.9471510	0.32	
8238.00	90.120	272.450	7068.74	1460.68	-577.64	-1465.80	1655040.66	14672144.23	40.3993003	-104.9474737	0.73	
8327.00	89.880	273.210	7068.74	1549.60	-573.25	-1554.70	1654951.80	14672148.56	40.3993124	-104.9477929	0.90	
8417.00	89.820	271.900	7068.97	1639.54	-569.24	-1644.60	1654861.92	14672152.51	40.3993234	-104.9481157	1.46	
8506.00	89.910	270.780	7069.18	1728.53	-567.16	-1733.58	1654772.98	14672154.53	40.3993290	-104.9484351	1.26	
8595.00	90.090	270.920	7069.18	1817.53	-565.84	-1822.57	1654684.03	14672155.79	40.3993327	-104.9487546	0.26	
8685.00	89.880	270.170	7069.21	1907.53	-564.98	-1912.56	1654594.07	14672156.59	40.3993350	-104.9490778	0.87	
8774.00	89.290	269.830	7069.85	1996.52	-564.98	-2001.56	1654505.11	14672156.53	40.3993350	-104.9493973	0.77	
8864.00	90.490	269.300	7070.02	2086.51	-565.66	-2091.56	1654415.15	14672155.79	40.3993331	-104.9497204	1.46	
8953.00	90.340	270.670	7069.38	2175.50	-565.69	-2180.55	1654326.19	14672155.71	40.3993330	-104.9500399	1.55	
9043.00	90.150	270.410	7068.99	2265.50	-564.84	-2270.55	1654236.23	14672156.50	40.3993353	-104.9503630	0.36	
9132.00	90.220	270.620	7068.71	2354.50	-564.04	-2359.54	1654147.27	14672157.24	40.3993375	-104.9506826	0.25	
9221.00	90.220	270.070	7068.36	2443.50	-563.50	-2448.54	1654058.31	14672157.72	40.3993389	-104.9510021	0.62	
9311.00	90.150	270.110	7068.07	2533.49	-563.36	-2538.54	1653968.34	14672157.80	40.3993393	-104.9513252	0.09	
9400.00	90.340	271.550	7067.69	2622.49	-562.07	-2627.53	1653879.39	14672159.03	40.3993428	-104.9516447	1.63	
9490.00	90.430	270.570	7067.09	2712.48	-560.41	-2717.51	1653789.44	14672160.64	40.3993473	-104.9519678	1.09	
9579.00	90.430	270.970	7066.42	2801.48	-559.21	-2806.50	1653700.49	14672161.77	40.3993506	-104.9522873	0.45	
9669.00	90.000	269.980	7066.08	2891.48	-558.46	-2896.49	1653610.53	14672162.46	40.3993526	-104.9526104	1.20	
9758.00	90.180	270.650	7065.94	2980.48	-557.98	-2985.49	1653521.57	14672162.89	40.3993539	-104.9529299	0.78	
9848.00	90.310	270.700	7065.56	3070.47	-556.91	-3075.48	1653431.61	14672163.89	40.3993568	-104.9532530	0.15	
9937.00	90.090	270.680	7065.25	3159.47	-555.84	-3164.48	1653342.65	14672164.91	40.3993597	-104.9535726	0.25	
10027.00	90.680	271.950	7064.64	3249.46	-553.78	-3254.45	1653252.72	14672166.91	40.3993653	-104.9538956	1.56	
10116.00	90.770	271.770	7063.52	3338.43	-550.89	-3343.39	1653163.80	14672169.74	40.3993732	-104.9542149	0.23	
10205.00	90.890	272.370	7062.23	3427.39	-547.68	-3432.33	1653074.90	14672172.90	40.3993820	-104.9545342	0.69	
10294.00	90.800	271.840	7060.92	3516.34	-544.41	-3521.26	1652986.01	14672176.11	40.3993910	-104.9548535	0.60	
10384.00	90.150	268.620	7060.17	3606.32	-544.05	-3611.24	1652896.06	14672176.41	40.3993919	-104.9551766	3.65	
10473.00	89.660	270.080	7060.32	3695.30	-545.05	-3700.23	1652807.11	14672175.34	40.3993891	-104.9554961	1.73	
10563.00	89.720	268.720	7060.80	3785.28	-546.00	-3790.22	1652717.15	14672174.34	40.3993865	-104.9558192	1.51	
10652.00	89.570	269.400	7061.35	3874.25	-547.46	-3879.21	1652628.20	14672172.82	40.3993824	-104.9561387	0.78	
10741.00	87.940	267.030	7063.29	3963.15	-550.23	-3968.13	1652539.31	14672169.99	40.3993748	-104.9564580	3.23	
10831.00	90.860	269.310	7064.23	4053.06	-553.10	-4058.07	1652449.42	14672167.06	40.3993669	-104.9567809	4.12	
10920.00	89.050	268.020	7064.30	4142.00	-555.17	-4147.04	1652360.48	14672164.93	40.3993611	-104.9571003	2.50	
11009.00	89.510	269.100	7065.42	4230.95	-557.41	-4236.00	1652271.56	14672162.64	40.3993550	-104.9574197	1.32	
11099.00	89.540	269.330	7066.17	4320.92	-558.64	-4325.99	1652181.61	14672161.35	40.3993515	-104.9577428	0.26	
11188.00	89.940	268.970	7066.57	4409.89	-559.96	-4414.98	1652092.65	14672159.97	40.3993479	-104.9580623	0.60	
11278.00	90.520	269.890	7066.21	4499.88	-560.86	-4504.97	1652002.70	14672159.02	40.3993454	-104.9583854	1.21	
11367.00	90.620	270.870	7065.32	4588.87	-560.27	-4593.97	1651913.74	14672159.55	40.3993469	-104.9587049	1.11	
11457.00	90.400	270.930	7064.52	4678.86	-558.86	-4683.95	1651823.79	14672160.90	40.3993508	-104.9590280	0.25	
11547.00	91.020	269.580	7063.41	4768.85	-558.45	-4773.94	1651733.84	14672161.24	40.3993518	-104.9593511	1.65	
11636.00	90.460	270.750	7062.26	4857.84	-558.20	-4862.93	1651644.88	14672161.44	40.3993525	-104.9596706	1.46	
11725.00	89.880	269.650	7061.99	4946.84	-557.89	-4951.93	1651555.92	14672161.69	40.3993533	-104.9599901	1.40	
11815.00	89.780	270.450	7062.26	5036.84	-557.81	-5041.93	1651465.96	14672161.71	40.3993535	-104.9603133	0.90	
11904.00	90.150	271.530	7062.31	5125.83	-556.27	-5130.91	1651377.01	14672163.19	40.3993576	-104.9606328	1.28	
11994.00	90.250	270.740	7062.00	5215.82	-554.49	-5220.89	1651287.06	14672164.92	40.3993625	-104.9609558	0.88	

# Actual Wellpath Report

DAMORE 18-5HZ AWP

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## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-5HZ AWB
Slot	SLOT#05 DAMORE 18-5HZ (2213'FNL & 691'FWL,SEC.18)		

## WELLPATH DATA (230 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
12083.00	90.250	271.280	7061.61	5304.82	-552.92	-5309.88	1651198.11	14672166.43	40.3993667	-104.9612753	0.61	
12173.00	89.630	267.950	7061.71	5394.80	-553.52	-5399.86	1651108.16	14672165.76	40.3993650	-104.9615984	3.76	
12262.00	90.950	256.870	7061.25	5482.77	-565.26	-5487.94	1651020.13	14672153.97	40.3993327	-104.9619146	12.54	
12352.00	90.950	265.810	7059.76	5571.52	-578.80	-5576.81	1650931.30	14672140.39	40.3992955	-104.9622337	9.93	
12441.00	90.740	271.700	7058.45	5660.43	-580.73	-5665.74	1650842.41	14672138.40	40.3992902	-104.9625530	6.62	
12531.00	91.140	272.770	7056.97	5750.37	-577.22	-5755.66	1650752.52	14672141.84	40.3992997	-104.9628758	1.27	
12620.00	90.920	272.690	7055.37	5839.29	-572.98	-5844.55	1650663.67	14672146.02	40.3993113	-104.9631949	0.26	
12710.00	89.910	271.850	7054.72	5929.24	-569.42	-5934.47	1650573.78	14672149.53	40.3993210	-104.9635178	1.46	
12800.00	90.280	272.200	7054.57	6019.21	-566.24	-6024.41	1650483.87	14672152.65	40.3993297	-104.9638407	0.57	
12889.00	90.370	272.280	7054.06	6108.17	-562.76	-6113.35	1650394.97	14672156.07	40.3993392	-104.9641600	0.14	
12978.00	90.340	272.130	7053.51	6197.13	-559.33	-6202.28	1650306.07	14672159.43	40.3993485	-104.9644793	0.17	
13068.00	90.180	271.840	7053.10	6287.10	-556.22	-6292.22	1650216.16	14672162.49	40.3993570	-104.9648023	0.37	
13157.00	90.370	272.270	7052.68	6376.06	-553.03	-6381.16	1650127.25	14672165.62	40.3993657	-104.9651216	0.53	
13247.00	90.520	272.150	7051.98	6466.02	-549.56	-6471.09	1650037.36	14672169.03	40.3993752	-104.9654445	0.21	
13336.00	89.880	271.920	7051.67	6554.99	-546.39	-6560.04	1649948.45	14672172.13	40.3993838	-104.9657638	0.76	
13426.00	89.720	271.740	7051.98	6644.96	-543.52	-6649.99	1649858.53	14672174.95	40.3993916	-104.9660868	0.27	
13515.00	89.750	270.550	7052.39	6733.95	-541.74	-6738.97	1649769.59	14672176.67	40.3993964	-104.9664063	1.34	
13605.00	90.060	276.890	7052.54	6823.77	-535.91	-6828.73	1649679.85	14672182.44	40.3994124	-104.9667285	7.05	
13694.00	89.480	272.090	7052.90	6912.52	-528.94	-6917.43	1649591.18	14672189.35	40.3994314	-104.9670470	5.43	
13784.00	89.820	272.170	7053.45	7002.49	-525.60	-7007.37	1649501.28	14672192.63	40.3994406	-104.9673699	0.39	
13873.00	89.480	270.130	7053.99	7091.47	-523.81	-7096.35	1649412.34	14672194.36	40.3994454	-104.9676894	2.32	
13963.00	89.480	271.470	7054.81	7181.47	-522.55	-7186.33	1649322.39	14672195.56	40.3994488	-104.9680125	1.49	
14052.00	89.510	272.330	7055.59	7270.44	-519.60	-7275.28	1649233.48	14672198.45	40.3994568	-104.9683318	0.97	
14142.00	89.720	274.620	7056.20	7360.31	-514.15	-7365.10	1649143.68	14672203.84	40.3994717	-104.9686543	2.56	
14231.00	89.600	272.370	7056.73	7449.18	-508.72	-7453.93	1649054.89	14672209.21	40.3994865	-104.9689733	2.53	
14321.00	89.420	271.090	7057.50	7539.15	-506.01	-7543.89	1648964.97	14672211.86	40.3994939	-104.9692962	1.44	
14410.00	89.450	270.140	7058.37	7628.15	-505.05	-7632.88	1648876.02	14672212.76	40.3994964	-104.9696157	1.07	
14500.00	90.550	271.040	7058.37	7718.15	-504.12	-7722.87	1648786.06	14672213.63	40.3994989	-104.9699388	1.58	
14589.00	90.280	270.330	7057.73	7807.14	-503.06	-7811.86	1648697.10	14672214.63	40.3995017	-104.9702583	0.85	
14679.00	90.980	272.180	7056.74	7897.12	-501.09	-7901.83	1648607.17	14672216.54	40.3995071	-104.9705814	2.20	
14768.00	90.250	270.250	7055.78	7986.11	-499.20	-7990.80	1648518.23	14672218.37	40.3995122	-104.9709008	2.32	
14857.00	90.060	270.450	7055.54	8075.11	-498.66	-8079.80	1648429.27	14672218.86	40.3995136	-104.9712203	0.31	
14947.00	90.280	270.710	7055.28	8165.11	-497.75	-8169.79	1648339.31	14672219.71	40.3995160	-104.9715435	0.38	
15037.00	90.090	270.750	7054.99	8255.10	-496.60	-8259.78	1648249.35	14672220.80	40.3995191	-104.9718666	0.22	
15126.00	90.250	270.480	7054.72	8344.10	-495.65	-8348.78	1648160.40	14672221.69	40.3995216	-104.9721861	0.35	
15215.00	90.220	270.660	7054.36	8433.10	-494.76	-8437.77	1648071.44	14672222.52	40.3995240	-104.9725056	0.21	
15305.00	90.490	271.910	7053.80	8523.09	-492.74	-8527.75	1647981.50	14672224.48	40.3995294	-104.9728286	1.42	
15394.00	89.970	268.340	7053.44	8612.07	-492.55	-8616.73	1647892.55	14672224.61	40.3995299	-104.9731481	4.05	
15484.00	90.460	270.650	7053.10	8702.05	-493.34	-8706.72	1647802.60	14672223.76	40.3995276	-104.9734712	2.62	
15573.00	90.340	269.600	7052.48	8791.05	-493.15	-8795.72	1647713.63	14672223.90	40.3995280	-104.9737908	1.19	
15662.00	89.850	269.480	7052.34	8880.03	-493.86	-8884.71	1647624.67	14672223.13	40.3995260	-104.9741103	0.57	
15752.00	90.680	271.070	7051.92	8970.03	-493.43	-8974.71	1647534.72	14672223.50	40.3995271	-104.9744334	1.99	
15842.00	89.940	269.360	7051.43	9060.02	-493.09	-9064.70	1647444.76	14672223.78	40.3995279	-104.9747565	2.07	
15931.00	90.310	271.570	7051.24	9149.02	-492.37	-9153.69	1647355.80	14672224.44	40.3995298	-104.9750760	2.52	
16020.00	90.250	270.550	7050.80	9238.01	-490.72	-9242.67	1647266.85	14672226.03	40.3995343	-104.9753955	1.15	

### REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-5HZ AWB
Slot	SLOT#05 DAMORE 18-5HZ (2213'FNL & 691'FWL,SEC.18)		

### WELLPATH DATA (230 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
16110.00	89.780	270.900	7050.78	9328.01	-489.58	-9332.67	1647176.90	14672227.11	40.3995373	-104.9757186	0.65	
16199.00	89.380	270.840	7051.43	9417.00	-488.23	-9421.65	1647087.94	14672228.40	40.3995409	-104.9760381	0.45	
16288.00	89.380	268.870	7052.39	9505.99	-488.46	-9510.64	1646998.99	14672228.12	40.3995402	-104.9763576	2.21	
16377.00	89.820	269.090	7053.02	9594.96	-490.04	-9599.63	1646910.04	14672226.48	40.3995357	-104.9766771	0.55	
16467.00	89.450	269.580	7053.59	9684.93	-491.09	-9689.62	1646820.09	14672225.37	40.3995328	-104.9770002	0.68	
16556.00	89.380	268.240	7054.50	9773.89	-492.78	-9778.60	1646731.15	14672223.62	40.3995280	-104.9773196	1.51	
16646.00	89.320	268.400	7055.52	9863.82	-495.42	-9868.55	1646641.23	14672220.93	40.3995207	-104.9776426	0.19	
16735.00	90.120	269.560	7055.95	9952.79	-497.00	-9957.53	1646552.29	14672219.28	40.3995163	-104.9779621	1.58	
16825.00	90.400	278.180	7055.54	10042.55	-490.93	-10047.24	1646462.61	14672225.29	40.3995328	-104.9782842	9.58	
16914.00	90.150	276.840	7055.12	10130.88	-479.30	-10135.48	1646374.40	14672236.86	40.3995646	-104.9786010	1.53	
17004.00	90.000	272.970	7055.00	10220.60	-471.61	-10225.13	1646284.78	14672244.49	40.3995857	-104.9789229	4.30	
17093.00	90.370	271.460	7054.71	10309.55	-468.17	-10314.06	1646195.88	14672247.87	40.3995950	-104.9792422	1.75	
17183.00	89.720	272.100	7054.64	10399.53	-465.37	-10404.02	1646105.96	14672250.61	40.3996026	-104.9795652	1.01	
17272.00	90.250	270.700	7054.67	10488.52	-463.20	-10492.99	1646017.03	14672252.72	40.3996084	-104.9798846	1.68	
17362.00	89.320	269.920	7055.00	10578.51	-462.71	-10582.98	1645927.07	14672253.15	40.3996097	-104.9802077	1.35	
17452.00	89.600	270.230	7055.85	10668.51	-462.59	-10672.98	1645837.11	14672253.21	40.3996099	-104.9805308	0.46	
17541.00	89.230	269.070	7056.76	10757.49	-463.14	-10761.97	1645748.15	14672252.61	40.3996083	-104.9808504	1.37	
17631.00	89.570	269.070	7057.70	10847.46	-464.60	-10851.95	1645658.20	14672251.09	40.3996042	-104.9811734	0.38	
17720.00	89.570	269.150	7058.37	10936.43	-465.98	-10940.94	1645569.25	14672249.65	40.3996003	-104.9814929	0.09	
17810.00	90.310	268.720	7058.46	11026.39	-467.65	-11030.92	1645479.31	14672247.92	40.3995956	-104.9818160	0.95	
17899.00	90.550	272.830	7057.80	11115.37	-466.45	-11119.89	1645390.37	14672249.07	40.3995987	-104.9821354	4.63	
17989.00	90.520	271.590	7056.96	11205.33	-462.98	-11209.82	1645300.48	14672252.48	40.3996082	-104.9824583	1.38	
18078.00	90.490	269.070	7056.17	11294.31	-462.47	-11298.81	1645211.53	14672252.93	40.3996095	-104.9827778	2.83	
18168.00	90.580	269.450	7055.33	11384.29	-463.63	-11388.80	1645121.57	14672251.71	40.3996062	-104.9831009	0.43	
18257.00	90.490	269.050	7054.50	11473.26	-464.79	-11477.79	1645032.62	14672250.49	40.3996028	-104.9834204	0.46	
18346.00	90.220	268.570	7053.95	11562.22	-466.64	-11566.77	1644943.68	14672248.58	40.3995977	-104.9837399	0.62	
18436.00	90.520	269.110	7053.37	11652.18	-468.46	-11656.74	1644853.74	14672246.70	40.3995925	-104.9840629	0.69	
18525.00	90.430	268.990	7052.63	11741.15	-469.94	-11745.73	1644764.79	14672245.17	40.3995884	-104.9843824	0.17	
18614.00	90.400	269.160	7051.98	11830.12	-471.38	-11834.72	1644675.84	14672243.67	40.3995843	-104.9847019	0.19	
18704.00	90.400	269.070	7051.36	11920.09	-472.77	-11924.70	1644585.89	14672242.23	40.3995804	-104.9850250	0.10	
18793.00	90.710	268.820	7050.49	12009.06	-474.41	-12013.68	1644496.95	14672240.53	40.3995758	-104.9853444	0.45	
18883.00	90.680	269.320	7049.40	12099.02	-475.87	-12103.66	1644407.00	14672239.01	40.3995716	-104.9856675	0.56	
18972.00	90.920	269.010	7048.16	12187.99	-477.16	-12192.65	1644318.06	14672237.66	40.3995679	-104.9859870	0.44	
19061.00	90.830	268.890	7046.80	12276.94	-478.79	-12281.62	1644229.12	14672235.97	40.3995634	-104.9863064	0.17	
19151.00	90.520	269.920	7045.74	12366.92	-479.73	-12371.61	1644139.17	14672234.97	40.3995607	-104.9866295	1.20	
19240.00	90.650	270.110	7044.83	12455.91	-479.70	-12460.60	1644050.21	14672234.94	40.3995606	-104.9869490	0.26	
19330.00	90.830	270.300	7043.67	12545.90	-479.38	-12550.60	1643960.25	14672235.20	40.3995614	-104.9872721	0.29	
19420.00	90.830	269.510	7042.37	12635.89	-479.53	-12640.59	1643870.30	14672234.99	40.3995608	-104.9875952	0.88	
19509.00	90.680	270.340	7041.19	12724.88	-479.65	-12729.58	1643781.35	14672234.82	40.3995604	-104.9879147	0.95	
19598.00	90.710	268.670	7040.11	12813.85	-480.42	-12818.56	1643692.40	14672233.99	40.3995581	-104.9882342	1.88	
19688.00	90.770	274.310	7038.95	12903.80	-478.08	-12908.49	1643602.50	14672236.27	40.3995644	-104.9885571	6.27	
19777.00	90.370	274.100	7038.06	12992.60	-471.55	-12997.25	1643513.78	14672242.74	40.3995822	-104.9888758	0.51	
19867.00	90.650	272.860	7037.26	13082.48	-466.09	-13087.07	1643423.98	14672248.14	40.3995971	-104.9891983	1.41	
19956.00	90.920	271.920	7036.04	13171.42	-462.38	-13175.99	1643335.10	14672251.79	40.3996071	-104.9895175	1.10	
20045.00	90.830	271.380	7034.69	13260.39	-459.82	-13264.94	1643246.19	14672254.29	40.3996140	-104.9898369	0.62	



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-5HZ AWB
Slot	SLOT#05 DAMORE 18-5HZ (2213'FNL & 691'FWL,SEC.18)		

WELLPATH DATA (230 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
20135.00	90.650	271.280	7033.52	13350.37	-457.73	13354.91	1643156.25	14672256.32	40.3996196	-104.9901599	0.23	
20224.00	90.860	271.070	7032.35	13439.36	-455.90	13443.88	1643067.31	14672258.09	40.3996245	-104.9904794	0.33	
20314.00	90.580	271.150	7031.22	13529.35	-454.16	13533.86	1642977.37	14672259.77	40.3996292	-104.9908024	0.32	
20390.00	90.740	271.100	7030.34	13605.34	-452.67	13609.84	1642901.42	14672261.22	40.3996331	-104.9910752	0.22	LAST BH MWD+IFR1+MSA SURVEY
20415.00‡	90.740	271.100	7030.02	13630.34	-452.19	13634.83	1642876.44	14672261.68	40.3996344	-104.9911650	0.00	PTB (2573'FSL & 2146'FEL, SEC.15) 40.3996344, -104.9911650

HOLE & CASING SECTIONS - Ref Wellbore: DAMORE 18-5HZ AWB Ref Wellpath: DAMORE 18-5HZ 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	1859.00	1833.00	26.00	1842.93	0.00	0.00	-201.05	-19.16

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
DAMORE DSU	16.00	45.90	-38.44	1656467.04	14672768.45	40.4010120	-104.9423490	polygon
	2D Polygon: dimensions not calculated							
SEC.13-T5N-R67W	16.00	-946.03	-1258.75	1655247.87	14671776.13	40.3982892	-104.9467303	polygon
	2D Polygon: dimensions not calculated							
SEC.14-T5N-R67W	16.00	-946.03	-1258.75	1655247.87	14671776.13	40.3982892	-104.9467303	polygon
	2D Polygon: dimensions not calculated							
SEC.15-T5N-R67W	16.00	-952.03	-1258.75	1655247.87	14671770.13	40.3982727	-104.9467303	polygon
	2D Polygon: dimensions not calculated							
SEC.17-T5N-R67W	16.00	-932.03	-1258.75	1655247.86	14671790.12	40.3983276	-104.9467303	polygon
	2D Polygon: dimensions not calculated							
SEC.18-T5N-R67W	16.00	-932.03	-1258.75	1655247.86	14671790.12	40.3983276	-104.9467303	polygon
	2D Polygon: dimensions not calculated							
DAMORE 18-5HZ BHL REV-2 (2562'FSL & 2146'FEL,SEC.15)	6993.00	-463.00	-13635.15	1642876.13	14672250.87	40.3996047	-104.9911661	point
DAMORE 18-5HZ HEEL REV-1 (2494'FSL & 75'FEL,SEC.13)	7063.00	-575.97	-773.74	1655732.44	14672146.35	40.3993050	-104.9449890	point



## REFERENCE WELLPATH IDENTIFICATION

Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-5HZ AWB
Slot	SLOT#05 DAMORE 18-5HZ (2213'FNL & 691'FWL,SEC.18)		

## WELLPATH COMPOSITION - Ref Wellbore: DAMORE 18-5HZ AWB Ref Wellpath: DAMORE 18-5HZ AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
26.00	1812.00	Custom APC_ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <120 - 1794 >	DAMORE 18-5HZ AWB	2/26/2020
1812.00	20415.00	Custom APC_ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BH Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1888-20390 >	DAMORE 18-5HZ AWB	3/29/2020

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Well	DAMORE 18-5HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	API/Legal	
Facility	SEC.18-T5N-R67W	Wellbore	DAMORE 18-5HZ AWB
Slot	SLOT#05 DAMORE 18-5HZ (2213'FNL & 691'FWL,SEC.18)		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
138.00	0.350	122.130	138.00	FIRST SURFACE MWD+IFR1 SURVEY
1812.00	8.480	194.670	1796.45	LAST SURFACE MWD+IFR1 SURVEY
1888.00	8.750	195.510	1871.60	FIRST BH MWD+IFR1+MSA SURVEY
6394.00	2.192	216.575	6345.44	KOP
7523.00	90.060	269.710	7068.63	LANDING (2468'FSL & 60'FEL, SEC.13) 40.3992325, -104.9449089
20390.00	90.740	271.100	7030.34	LAST BH MWD+IFR1+MSA SURVEY
20415.00	90.740	271.100	7030.02	PTB (2573'FSL & 2146'FEL, SEC.15) 40.3996344, -104.991165