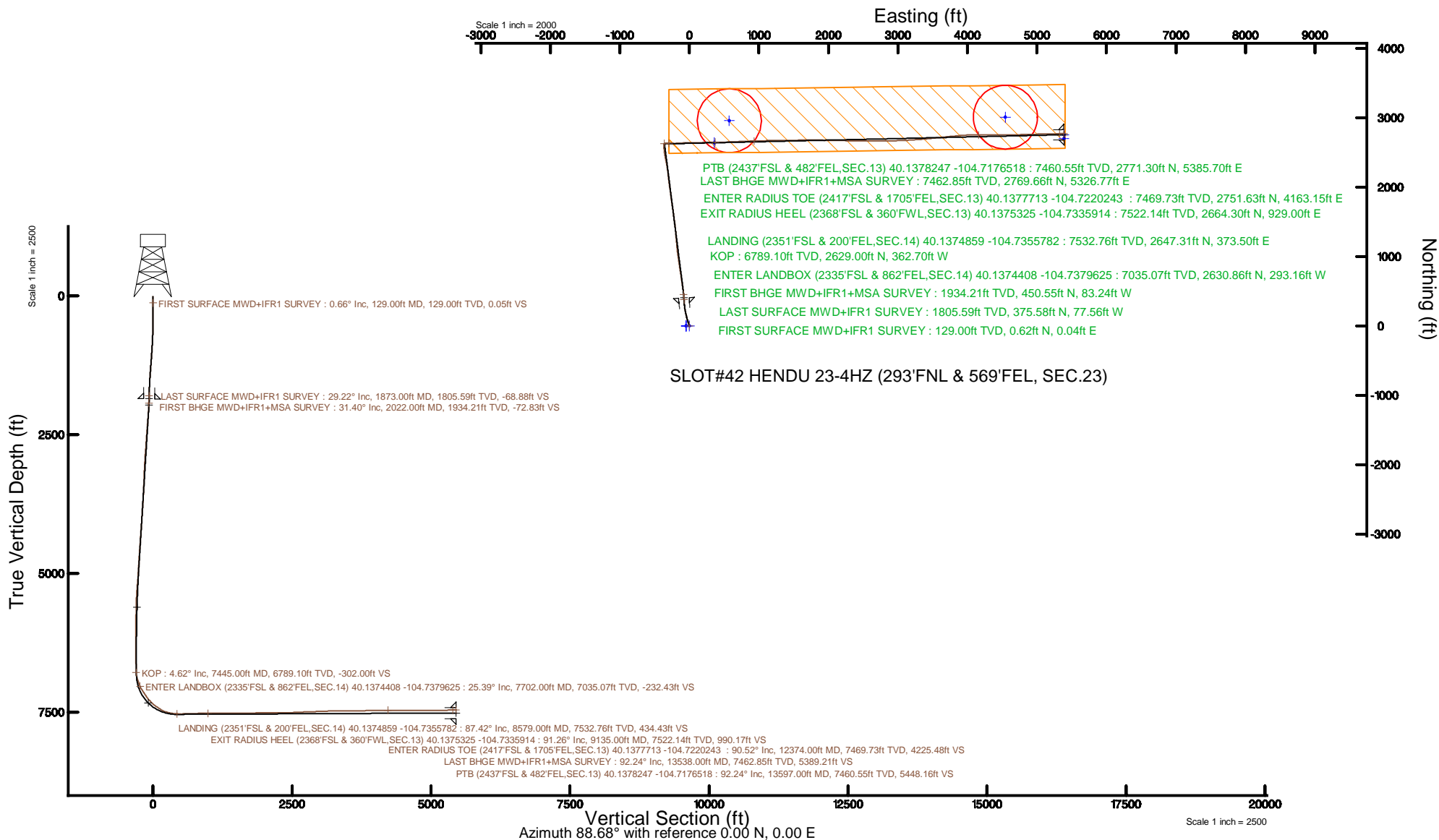


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23)
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: HENDU 23-4HZ
 Facility: SEC.23-T2N-R66W Wellbore: HENDU 23-4HZ PWB

Plot reference wellpath is HENDU 23-4HZ PWP Rev-A.1	Grid System: NAD83 / UTM Zone 13 North, US feet
True vertical depths are referenced to PD 464 (21') (RT)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to PD 464 (21') (RT)	North Reference: True north
PD 464 (21') (RT) to Mean Sea Level: 5121 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: painsetr on 2018-10-16
	Database: WA_DEN_Anadarko_Defn



REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23)
Area	COLORADO	Well	HENDU 23-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HENDU 23-4HZ AWB
Facility	SEC.23-T2N-R66W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999606	Report Generated	10/16/2018 at 12:45 PM
Convergence at slot	0.17° East	Database/Source file	WA_DEN_Anadarko_Defn/HENDU_23-4HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	4760.87	557.05	1713954.05	14574260.83	40°07'48.788"N	104°44'12.890"W
Facility Reference Pt			1713411.19	14569500.22	40°07'01.741"N	104°44'20.062"W
Field Reference Pt			1698235.31	14552047.82	40°04'09.600"N	104°47'36.000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	PD 464 (21') (RT) to Facility Vertical Datum	5121.00ft
Horizontal Reference Pt	Slot	PD 464 (21') (RT) to Mean Sea Level	5121.00ft
Vertical Reference Pt	PD 464 (21') (RT)	PD 464 (21') (RT) to Mud Line at Slot (SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23))	5121.00ft
MD Reference Pt	PD 464 (21') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	88.68°

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23)
Area	COLORADO	Well	HENDU 23-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HENDU 23-4HZ AWB
Facility	SEC.23-T2N-R66W		

WELLPATH DATA (197 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	3.660	0.00	0.00	0.00	0.00	1713954.05	14574260.83	40°07'48.788"N	104°44'12.890"W	0.00	
21.00	0.000	3.660	21.00	0.00	0.00	0.00	1713954.05	14574260.83	40°07'48.788"N	104°44'12.890"W	0.00	
129.00	0.660	3.660	129.00	0.05	0.62	0.04	1713954.09	14574261.45	40°07'48.795"N	104°44'12.890"W	0.61	FIRST SURFACE MWD+IFR1 SURVEY
161.00	0.660	358.030	161.00	0.07	0.99	0.05	1713954.09	14574261.81	40°07'48.798"N	104°44'12.890"W	0.20	
192.00	0.400	352.140	191.99	0.05	1.27	0.02	1713954.07	14574262.10	40°07'48.801"N	104°44'12.890"W	0.86	
224.00	0.830	7.080	223.99	0.07	1.62	0.04	1713954.08	14574262.44	40°07'48.804"N	104°44'12.890"W	1.42	
256.00	0.480	28.970	255.99	0.18	1.96	0.13	1713954.17	14574262.79	40°07'48.808"N	104°44'12.889"W	1.33	
288.00	0.220	26.590	287.99	0.27	2.13	0.22	1713954.27	14574262.96	40°07'48.809"N	104°44'12.888"W	0.81	
319.00	0.040	215.820	318.99	0.29	2.18	0.24	1713954.29	14574263.00	40°07'48.810"N	104°44'12.887"W	0.84	
351.00	0.130	98.050	350.99	0.32	2.16	0.27	1713954.32	14574262.99	40°07'48.810"N	104°44'12.887"W	0.48	
415.00	0.620	310.220	414.99	0.14	2.38	0.08	1713954.12	14574263.20	40°07'48.812"N	104°44'12.889"W	1.15	
447.00	0.830	320.060	446.99	-0.14	2.67	-0.20	1713953.84	14574263.49	40°07'48.815"N	104°44'12.893"W	0.76	
479.00	1.450	329.730	478.98	-0.48	3.20	-0.55	1713953.49	14574264.02	40°07'48.820"N	104°44'12.898"W	2.02	
510.00	1.890	334.920	509.97	-0.88	4.00	-0.97	1713953.07	14574264.82	40°07'48.828"N	104°44'12.903"W	1.50	
542.00	2.590	342.030	541.94	-1.30	5.16	-1.41	1713952.62	14574265.98	40°07'48.839"N	104°44'12.909"W	2.35	
574.00	3.340	342.390	573.90	-1.76	6.74	-1.92	1713952.11	14574267.56	40°07'48.855"N	104°44'12.915"W	2.34	
605.00	4.040	341.590	604.83	-2.34	8.64	-2.54	1713951.49	14574269.45	40°07'48.874"N	104°44'12.923"W	2.26	
637.00	5.270	341.860	636.73	-3.09	11.10	-3.35	1713950.67	14574271.91	40°07'48.898"N	104°44'12.934"W	3.84	
668.00	6.110	341.160	667.57	-4.00	14.02	-4.33	1713949.68	14574274.82	40°07'48.927"N	104°44'12.946"W	2.72	
700.00	6.810	342.120	699.37	-5.06	17.43	-5.46	1713948.54	14574278.24	40°07'48.961"N	104°44'12.961"W	2.21	
732.00	8.040	342.470	731.10	-6.22	21.37	-6.72	1713947.27	14574282.17	40°07'49.000"N	104°44'12.977"W	3.85	
764.00	8.440	342.390	762.77	-7.51	25.75	-8.10	1713945.88	14574286.54	40°07'49.043"N	104°44'12.995"W	1.25	
795.00	8.880	341.860	793.42	-8.84	30.19	-9.53	1713944.43	14574290.97	40°07'49.087"N	104°44'13.013"W	1.44	
827.00	9.540	340.190	825.01	-10.39	35.03	-11.20	1713942.75	14574295.81	40°07'49.135"N	104°44'13.035"W	2.23	
859.00	10.110	341.950	856.54	-12.04	40.20	-12.97	1713940.96	14574300.97	40°07'49.186"N	104°44'13.057"W	2.01	
891.00	10.500	340.800	888.02	-13.74	45.62	-14.80	1713939.12	14574306.38	40°07'49.239"N	104°44'13.081"W	1.38	
922.00	11.340	341.070	918.46	-15.53	51.17	-16.72	1713937.19	14574311.93	40°07'49.294"N	104°44'13.106"W	2.71	
954.00	12.480	340.980	949.77	-17.54	57.41	-18.86	1713935.02	14574318.16	40°07'49.356"N	104°44'13.133"W	3.56	
986.00	13.400	343.970	980.96	-19.53	64.25	-21.02	1713932.85	14574324.99	40°07'49.423"N	104°44'13.161"W	3.55	
1018.00	13.270	343.000	1012.09	-21.46	71.32	-23.11	1713930.73	14574332.05	40°07'49.493"N	104°44'13.188"W	0.81	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23)
Area	COLORADO	Well	HENDU 23-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HENDU 23-4HZ AWB
Facility	SEC.23-T2N-R66W		

WELLPATH DATA (197 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
1050.00	13.930	342.390	1043.20	-23.54	78.51	-25.35	1713928.47	14574339.23	40°07'49.564"N	104°44'13.217"W	2.11	
1081.00	14.020	343.090	1073.28	-25.59	85.66	-27.57	1713926.23	14574346.37	40°07'49.635"N	104°44'13.245"W	0.62	
1113.00	14.500	343.530	1104.29	-27.68	93.21	-29.84	1713923.95	14574353.91	40°07'49.709"N	104°44'13.275"W	1.54	
1145.00	15.380	344.670	1135.21	-29.75	101.14	-32.09	1713921.67	14574361.83	40°07'49.788"N	104°44'13.304"W	2.90	
1176.00	16.000	343.180	1165.06	-31.89	109.20	-34.42	1713919.32	14574369.88	40°07'49.867"N	104°44'13.334"W	2.39	
1208.00	16.170	343.620	1195.80	-34.23	117.69	-36.95	1713916.77	14574378.36	40°07'49.951"N	104°44'13.366"W	0.65	
1240.00	16.740	344.230	1226.49	-36.54	126.40	-39.46	1713914.23	14574387.06	40°07'50.038"N	104°44'13.398"W	1.86	
1272.00	17.090	344.410	1257.11	-38.84	135.37	-41.98	1713911.69	14574396.01	40°07'50.126"N	104°44'13.431"W	1.11	
1303.00	18.410	345.370	1286.63	-41.09	144.49	-44.44	1713909.20	14574405.13	40°07'50.216"N	104°44'13.462"W	4.36	
1335.00	19.380	347.040	1316.91	-43.33	154.55	-46.90	1713906.71	14574415.18	40°07'50.316"N	104°44'13.494"W	3.47	
1366.00	20.210	346.780	1346.08	-45.47	164.78	-49.28	1713904.30	14574425.39	40°07'50.417"N	104°44'13.525"W	2.69	
1398.00	20.570	348.100	1376.07	-47.64	175.66	-51.70	1713901.85	14574436.26	40°07'50.524"N	104°44'13.556"W	1.83	
1430.00	21.180	347.840	1405.97	-49.76	186.81	-54.08	1713899.44	14574447.40	40°07'50.635"N	104°44'13.587"W	1.93	
1461.00	21.970	348.540	1434.80	-51.83	197.97	-56.41	1713897.07	14574458.55	40°07'50.745"N	104°44'13.617"W	2.68	
1493.00	22.410	349.070	1464.43	-53.91	209.83	-58.76	1713894.69	14574470.39	40°07'50.862"N	104°44'13.647"W	1.51	
1524.00	23.120	349.510	1493.01	-55.86	221.61	-60.99	1713892.43	14574482.17	40°07'50.978"N	104°44'13.676"W	2.36	
1555.00	24.080	351.440	1521.42	-57.63	233.85	-63.04	1713890.35	14574494.40	40°07'51.099"N	104°44'13.702"W	3.97	
1587.00	24.740	351.350	1550.56	-59.31	246.93	-65.02	1713888.33	14574507.46	40°07'51.229"N	104°44'13.727"W	2.07	
1619.00	25.140	352.050	1579.58	-60.95	260.28	-66.96	1713886.34	14574520.80	40°07'51.361"N	104°44'13.753"W	1.55	
1651.00	25.970	352.930	1608.44	-62.43	273.96	-68.77	1713884.50	14574534.48	40°07'51.496"N	104°44'13.776"W	2.85	
1682.00	26.280	354.160	1636.28	-63.65	287.53	-70.30	1713882.93	14574548.03	40°07'51.630"N	104°44'13.795"W	2.01	
1714.00	26.590	354.600	1664.93	-64.72	301.71	-71.69	1713881.49	14574562.20	40°07'51.770"N	104°44'13.813"W	1.15	
1746.00	26.890	354.780	1693.51	-65.72	316.04	-73.03	1713880.12	14574576.52	40°07'51.912"N	104°44'13.831"W	0.97	
1778.00	27.290	354.950	1722.00	-66.69	330.56	-74.33	1713878.77	14574591.03	40°07'52.055"N	104°44'13.847"W	1.27	
1809.00	28.130	355.920	1749.44	-67.50	344.92	-75.48	1713877.58	14574605.39	40°07'52.197"N	104°44'13.862"W	3.08	
1841.00	28.700	356.180	1777.59	-68.20	360.12	-76.53	1713876.49	14574620.57	40°07'52.347"N	104°44'13.876"W	1.82	
1873.00	29.220	356.180	1805.59	-68.88	375.58	-77.56	1713875.41	14574636.02	40°07'52.500"N	104°44'13.889"W	1.63	LAST SURFACE MWD+IFR1 SURVEY
2022.00	31.400	355.190	1934.21	-72.83	450.55	-83.24	1713869.51	14574710.95	40°07'53.241"N	104°44'13.962"W	1.50	FIRST BHGE MWD+IFR1+MSA SURVEY
2115.00	30.660	353.780	2013.90	-76.33	498.27	-87.84	1713864.77	14574758.63	40°07'53.712"N	104°44'14.021"W	1.12	
2208.00	29.590	351.520	2094.34	-81.21	544.55	-93.79	1713858.68	14574804.88	40°07'54.170"N	104°44'14.098"W	1.68	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23)
Area	COLORADO	Well	HENDU 23-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HENDU 23-4HZ AWB
Facility	SEC.23-T2N-R66W		

WELLPATH DATA (197 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
2300.00	31.010	351.470	2173.77	-87.02	590.46	-100.66	1713851.69	14574850.75	40°07'54.623"N	104°44'14.186"W	1.54	
2393.00	29.690	350.650	2254.03	-93.24	636.88	-107.95	1713844.26	14574897.13	40°07'55.082"N	104°44'14.280"W	1.49	
2485.00	30.770	351.740	2333.52	-99.27	682.65	-115.04	1713837.04	14574942.86	40°07'55.534"N	104°44'14.371"W	1.32	
2577.00	31.710	351.260	2412.18	-105.23	729.84	-122.09	1713829.85	14574990.01	40°07'56.001"N	104°44'14.462"W	1.06	
2669.00	29.970	350.410	2491.16	-111.66	776.40	-129.59	1713822.21	14575036.53	40°07'56.461"N	104°44'14.559"W	1.95	
2763.00	31.530	351.410	2571.95	-118.15	823.85	-137.18	1713814.49	14575083.94	40°07'56.930"N	104°44'14.656"W	1.75	
2856.00	32.160	352.440	2650.95	-123.91	872.43	-144.06	1713807.46	14575132.48	40°07'57.410"N	104°44'14.745"W	0.89	
2948.00	30.210	351.810	2729.65	-129.34	919.62	-150.58	1713800.80	14575179.63	40°07'57.876"N	104°44'14.829"W	2.15	
3040.00	30.920	351.940	2808.87	-134.89	965.93	-157.20	1713794.06	14575225.91	40°07'58.334"N	104°44'14.914"W	0.78	
3131.00	31.200	351.610	2886.82	-140.53	1012.40	-163.91	1713787.21	14575272.34	40°07'58.793"N	104°44'15.001"W	0.36	
3224.00	31.140	352.900	2966.40	-145.92	1060.09	-170.40	1713780.58	14575319.99	40°07'59.264"N	104°44'15.084"W	0.72	
3316.00	31.970	354.330	3044.79	-150.16	1107.94	-175.75	1713775.10	14575367.80	40°07'59.737"N	104°44'15.153"W	1.21	
3408.00	30.170	353.620	3123.59	-154.04	1155.15	-180.72	1713769.98	14575414.98	40°08'00.204"N	104°44'15.217"W	2.00	
3500.00	32.960	355.790	3201.97	-157.34	1203.10	-185.13	1713765.43	14575462.90	40°08'00.678"N	104°44'15.274"W	3.27	
3592.00	31.180	354.960	3279.93	-160.15	1251.79	-189.06	1713761.36	14575511.55	40°08'01.159"N	104°44'15.324"W	1.99	
3683.00	31.560	356.970	3357.63	-162.39	1299.03	-192.39	1713757.90	14575558.77	40°08'01.626"N	104°44'15.367"W	1.22	
3775.00	30.210	353.810	3436.59	-165.07	1346.09	-196.16	1713753.99	14575605.80	40°08'02.091"N	104°44'15.416"W	2.29	
3867.00	31.630	354.630	3515.51	-168.74	1393.12	-200.91	1713749.10	14575652.80	40°08'02.555"N	104°44'15.477"W	1.61	
3985.00	30.180	353.730	3616.76	-173.48	1453.42	-207.05	1713742.79	14575713.05	40°08'03.151"N	104°44'15.556"W	1.29	
4076.00	30.180	351.600	3695.43	-178.28	1498.78	-212.89	1713736.82	14575758.38	40°08'03.599"N	104°44'15.631"W	1.18	
4169.00	30.650	350.480	3775.63	-184.54	1545.29	-220.22	1713729.34	14575804.84	40°08'04.059"N	104°44'15.726"W	0.79	
4260.00	30.160	352.830	3854.11	-190.18	1590.85	-226.91	1713722.52	14575850.36	40°08'04.509"N	104°44'15.812"W	1.41	
4352.00	31.300	352.770	3933.20	-194.99	1637.49	-232.80	1713716.49	14575896.97	40°08'04.970"N	104°44'15.888"W	1.24	
4443.00	29.770	353.300	4011.57	-199.54	1683.38	-238.41	1713710.75	14575942.82	40°08'05.424"N	104°44'15.960"W	1.71	
4534.00	30.690	351.270	4090.20	-204.66	1728.77	-244.58	1713704.46	14575988.18	40°08'05.872"N	104°44'16.039"W	1.51	
4626.00	30.240	350.620	4169.50	-210.93	1774.83	-251.91	1713696.99	14576034.20	40°08'06.327"N	104°44'16.134"W	0.61	
4717.00	31.990	352.530	4247.40	-216.73	1821.35	-258.78	1713689.98	14576080.68	40°08'06.787"N	104°44'16.222"W	2.21	
4809.00	32.680	353.410	4325.14	-221.62	1870.18	-264.80	1713683.82	14576129.48	40°08'07.270"N	104°44'16.300"W	0.91	
4900.00	30.540	352.900	4402.63	-226.20	1917.54	-270.48	1713678.00	14576176.80	40°08'07.738"N	104°44'16.373"W	2.37	
4992.00	31.500	351.340	4481.48	-231.63	1964.50	-276.99	1713671.36	14576223.72	40°08'08.202"N	104°44'16.457"W	1.36	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23)
Area	COLORADO	Well	HENDU 23-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HENDU 23-4HZ AWB
Facility	SEC.23-T2N-R66W		

WELLPATH DATA (197 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
5083.00	29.990	350.490	4559.68	-237.90	2010.43	-284.33	1713663.89	14576269.61	40°08'08.656"N	104°44'16.551"W	1.73	
5175.00	32.500	353.230	4638.34	-243.53	2057.66	-291.04	1713657.04	14576316.80	40°08'09.122"N	104°44'16.638"W	3.13	
5267.00	29.010	352.300	4717.39	-248.35	2104.33	-296.94	1713651.00	14576363.43	40°08'09.584"N	104°44'16.714"W	3.83	
5358.00	31.510	353.930	4795.98	-252.77	2149.85	-302.42	1713645.39	14576408.92	40°08'10.033"N	104°44'16.784"W	2.89	
5449.00	33.040	353.680	4872.92	-256.90	2198.16	-307.66	1713640.01	14576457.19	40°08'10.511"N	104°44'16.852"W	1.69	
5541.00	31.530	352.780	4950.70	-261.56	2246.95	-313.45	1713634.08	14576505.95	40°08'10.993"N	104°44'16.926"W	1.72	
5633.00	27.590	350.730	5030.71	-266.98	2291.86	-319.90	1713627.49	14576550.82	40°08'11.437"N	104°44'17.009"W	4.42	
5727.00	24.960	348.410	5114.99	-273.53	2332.78	-327.40	1713619.88	14576591.71	40°08'11.841"N	104°44'17.106"W	3.00	
5821.00	24.430	349.130	5200.39	-280.29	2371.30	-335.05	1713612.12	14576630.19	40°08'12.222"N	104°44'17.204"W	0.65	
5912.00	21.990	345.990	5284.03	-287.16	2406.32	-342.72	1713604.35	14576665.17	40°08'12.568"N	104°44'17.303"W	3.01	
6003.00	21.460	350.120	5368.57	-293.38	2439.25	-349.70	1713597.27	14576698.07	40°08'12.893"N	104°44'17.393"W	1.78	
6095.00	17.600	352.760	5455.26	-297.32	2469.64	-354.35	1713592.54	14576728.43	40°08'13.194"N	104°44'17.453"W	4.30	
6187.00	14.480	349.970	5543.67	-300.49	2494.77	-358.10	1713588.71	14576753.54	40°08'13.442"N	104°44'17.501"W	3.49	
6280.00	14.890	355.120	5633.63	-303.00	2518.13	-361.15	1713585.60	14576776.88	40°08'13.673"N	104°44'17.540"W	1.47	
6372.00	12.350	352.520	5723.04	-304.79	2539.66	-363.43	1713583.25	14576798.40	40°08'13.886"N	104°44'17.570"W	2.84	
6464.00	12.060	357.430	5812.96	-306.05	2559.02	-365.14	1713581.48	14576817.74	40°08'14.077"N	104°44'17.592"W	1.17	
6555.00	10.240	351.950	5902.24	-307.21	2576.53	-366.70	1713579.87	14576835.24	40°08'14.250"N	104°44'17.612"W	2.31	
6648.00	8.810	359.080	5993.96	-308.13	2591.83	-367.97	1713578.55	14576850.54	40°08'14.401"N	104°44'17.628"W	1.99	
6740.00	7.660	355.930	6085.01	-308.37	2605.00	-368.52	1713577.97	14576863.69	40°08'14.531"N	104°44'17.635"W	1.34	
6832.00	4.730	8.680	6176.47	-308.01	2614.86	-368.39	1713578.08	14576873.55	40°08'14.629"N	104°44'17.634"W	3.50	
6925.00	2.680	18.040	6269.27	-306.62	2620.72	-367.13	1713579.31	14576879.41	40°08'14.687"N	104°44'17.617"W	2.29	
7019.00	1.180	351.220	6363.22	-306.02	2623.77	-366.60	1713579.83	14576882.46	40°08'14.717"N	104°44'17.611"W	1.82	
7111.00	1.390	4.380	6455.19	-306.03	2625.82	-366.66	1713579.77	14576884.51	40°08'14.737"N	104°44'17.611"W	0.39	
7203.00	0.370	91.110	6547.18	-305.62	2626.92	-366.28	1713580.15	14576885.62	40°08'14.748"N	104°44'17.606"W	1.54	
7295.00	0.610	39.270	6639.18	-305.00	2627.30	-365.67	1713580.75	14576885.99	40°08'14.752"N	104°44'17.599"W	0.52	
7386.00	0.750	18.910	6730.18	-304.48	2628.24	-365.17	1713581.25	14576886.93	40°08'14.761"N	104°44'17.592"W	0.30	
7445.00†	4.618	80.406	6789.10	-302.00	2629.00	-362.70	1713583.71	14576887.70	40°08'14.768"N	104°44'17.560"W	7.31	KOP
7478.00	7.010	83.430	6821.93	-298.68	2629.45	-359.39	1713587.02	14576888.16	40°08'14.773"N	104°44'17.518"W	7.31	
7569.00	17.470	88.070	6910.74	-279.44	2630.55	-340.17	1713606.23	14576889.32	40°08'14.784"N	104°44'17.270"W	11.54	
7596.00	20.340	89.620	6936.28	-270.69	2630.72	-331.43	1713614.97	14576889.51	40°08'14.785"N	104°44'17.158"W	10.79	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23)
Area	COLORADO	Well	HENDU 23-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HENDU 23-4HZ AWB
Facility	SEC.23-T2N-R66W		

WELLPATH DATA (197 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
7628.00	19.680	88.660	6966.35	-259.74	2630.88	-320.48	1713625.92	14576889.70	40°08'14.787"N	104°44'17.017"W	2.30	
7661.00	20.040	90.220	6997.39	-248.53	2630.99	-309.27	1713637.12	14576889.85	40°08'14.788"N	104°44'16.872"W	1.94	
7691.00	24.820	90.550	7025.11	-237.09	2630.91	-297.83	1713648.56	14576889.80	40°08'14.787"N	104°44'16.725"W	15.94	
7702.00†	25.388	90.694	7035.07	-232.43	2630.86	-293.16	1713653.23	14576889.76	40°08'14.787"N	104°44'16.665"W	5.19	ENTER LANDBOX (2335'FSL & 862'FEL, SEC.14) 40.1374408 -104.7379625
7722.00	26.420	90.940	7053.06	-223.70	2630.73	-284.42	1713661.96	14576889.66	40°08'14.786"N	104°44'16.552"W	5.19	
7752.00	28.740	89.530	7079.65	-209.82	2630.68	-270.53	1713675.84	14576889.65	40°08'14.785"N	104°44'16.374"W	8.03	
7784.00	32.220	91.790	7107.23	-193.60	2630.48	-254.31	1713692.06	14576889.50	40°08'14.783"N	104°44'16.165"W	11.45	
7815.00	31.910	92.120	7133.50	-177.17	2629.92	-237.86	1713708.50	14576888.99	40°08'14.777"N	104°44'15.953"W	1.15	
7846.00	31.510	91.260	7159.87	-160.90	2629.44	-221.58	1713724.78	14576888.55	40°08'14.773"N	104°44'15.743"W	1.95	
7876.00	35.670	89.270	7184.86	-144.31	2629.37	-204.98	1713741.37	14576888.54	40°08'14.772"N	104°44'15.530"W	14.34	
7907.00	36.390	88.430	7209.93	-126.08	2629.74	-186.75	1713759.59	14576888.96	40°08'14.776"N	104°44'15.295"W	2.82	
7937.00	36.520	86.840	7234.06	-108.26	2630.48	-168.94	1713777.39	14576889.75	40°08'14.783"N	104°44'15.066"W	3.18	
8029.00	42.550	85.100	7304.98	-49.79	2634.65	-110.56	1713835.74	14576894.09	40°08'14.824"N	104°44'14.314"W	6.66	
8121.00	50.600	87.920	7368.18	16.91	2638.60	-43.93	1713902.33	14576898.24	40°08'14.863"N	104°44'13.456"W	9.03	
8213.00	56.340	88.950	7422.92	90.80	2640.59	29.94	1713976.16	14576900.45	40°08'14.883"N	104°44'12.505"W	6.30	
8305.00	62.680	89.500	7469.57	170.04	2641.65	109.17	1714055.36	14576901.75	40°08'14.893"N	104°44'11.485"W	6.91	
8398.00	73.330	88.650	7504.35	256.14	2643.07	195.26	1714141.41	14576903.41	40°08'14.907"N	104°44'10.376"W	11.48	
8490.00	81.630	88.400	7524.28	345.88	2645.38	284.96	1714231.07	14576905.99	40°08'14.930"N	104°44'09.221"W	9.03	
8579.00†	87.425	89.106	7532.76	434.43	2647.31	373.50	1714319.57	14576908.18	40°08'14.949"N	104°44'08.081"W	6.56	LANDING (2351'FSL & 200'FEL, SEC.14) 40.1374859 -104.7355782
8582.00	87.620	89.130	7532.89	437.43	2647.35	376.50	1714322.56	14576908.23	40°08'14.950"N	104°44'08.043"W	6.56	
8675.00	92.070	89.640	7533.15	530.40	2648.35	469.47	1714415.49	14576909.50	40°08'14.960"N	104°44'06.846"W	4.82	
8767.00	91.890	88.080	7529.97	622.34	2650.18	561.39	1714507.38	14576911.61	40°08'14.978"N	104°44'05.662"W	1.71	
8860.00	92.060	87.400	7526.76	715.27	2653.84	654.26	1714600.20	14576915.54	40°08'15.014"N	104°44'04.466"W	0.75	
8951.00	90.560	86.800	7524.68	806.21	2658.45	745.12	1714691.01	14576920.41	40°08'15.059"N	104°44'03.297"W	1.78	
9043.00	90.670	88.710	7523.69	898.19	2662.05	837.04	1714782.88	14576924.29	40°08'15.095"N	104°44'02.113"W	2.08	
9135.00†	91.264	88.492	7522.14	990.17	2664.30	929.00	1714874.79	14576926.80	40°08'15.117"N	104°44'00.929"W	0.69	EXIT RADIUS HEEL (2368'FSL & 360'FWL, SEC.13) 40.1375325 -104.7335914
9136.00	91.270	88.490	7522.12	991.17	2664.32	930.00	1714875.79	14576926.83	40°08'15.117"N	104°44'00.916"W	0.69	
9227.00	89.640	88.560	7521.40	1082.17	2666.66	1020.96	1714966.71	14576929.44	40°08'15.140"N	104°43'59.745"W	1.79	
9320.00	89.420	87.510	7522.16	1175.16	2669.85	1113.90	1715059.61	14576932.91	40°08'15.172"N	104°43'58.548"W	1.15	
9412.00	89.720	89.820	7522.85	1267.15	2672.00	1205.87	1715151.53	14576935.32	40°08'15.193"N	104°43'57.364"W	2.53	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 HENDU 23-4HZ (293°FNL & 569°FEL, SEC.23)
Area	COLORADO	Well	HENDU 23-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HENDU 23-4HZ AWB
Facility	SEC.23-T2N-R66W		

WELLPATH DATA (197 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
9504.00	90.020	89.640	7523.06	1359.13	2672.43	1297.87	1715243.49	14576936.03	40°08'15.197"N	104°43'56.180"W	0.38	
9595.00	90.250	89.300	7522.84	1450.12	2673.27	1388.86	1715334.45	14576937.14	40°08'15.206"N	104°43'55.008"W	0.45	
9687.00	90.150	88.740	7522.52	1542.12	2674.84	1480.85	1715426.39	14576938.98	40°08'15.221"N	104°43'53.824"W	0.62	
9778.00	91.210	89.190	7521.44	1633.11	2676.49	1571.83	1715517.33	14576940.89	40°08'15.237"N	104°43'52.652"W	1.27	
9869.00	91.490	89.550	7519.30	1724.08	2677.49	1662.80	1715608.26	14576942.16	40°08'15.247"N	104°43'51.481"W	0.50	
9962.00	91.550	89.880	7516.83	1817.03	2677.95	1755.76	1715701.19	14576942.90	40°08'15.252"N	104°43'50.284"W	0.36	
10054.00	90.580	90.740	7515.12	1908.98	2677.45	1847.74	1715793.13	14576942.67	40°08'15.247"N	104°43'49.100"W	1.41	
10146.00	90.620	91.060	7514.16	2000.90	2676.01	1939.73	1715885.08	14576941.50	40°08'15.232"N	104°43'47.915"W	0.35	
10239.00	90.850	91.290	7512.97	2093.81	2674.10	2032.70	1715978.02	14576939.87	40°08'15.213"N	104°43'46.718"W	0.35	
10330.00	89.250	90.850	7512.89	2184.72	2672.40	2123.68	1716068.97	14576938.44	40°08'15.196"N	104°43'45.547"W	1.82	
10422.00	88.900	91.460	7514.37	2276.63	2670.55	2215.65	1716160.91	14576936.86	40°08'15.178"N	104°43'44.363"W	0.76	
10516.00	91.350	92.600	7514.17	2370.46	2667.22	2309.58	1716254.81	14576933.81	40°08'15.145"N	104°43'43.153"W	2.87	
10610.00	92.410	90.580	7511.08	2464.28	2664.61	2403.49	1716348.69	14576931.48	40°08'15.119"N	104°43'41.944"W	2.43	
10701.00	92.750	91.050	7506.99	2555.12	2663.32	2494.39	1716439.56	14576930.46	40°08'15.106"N	104°43'40.774"W	0.64	
10794.00	93.180	88.440	7502.17	2647.97	2663.73	2587.25	1716532.39	14576931.15	40°08'15.110"N	104°43'39.578"W	2.84	
10886.00	92.210	89.140	7497.85	2739.87	2665.67	2679.13	1716624.22	14576933.36	40°08'15.129"N	104°43'38.395"W	1.30	
10979.00	92.290	89.440	7494.20	2832.79	2666.82	2772.05	1716717.10	14576934.78	40°08'15.141"N	104°43'37.199"W	0.33	
11070.00	91.320	89.150	7491.33	2923.74	2667.94	2863.00	1716808.01	14576936.17	40°08'15.152"N	104°43'36.028"W	1.11	
11163.00	91.590	89.440	7488.97	3016.70	2669.09	2955.96	1716900.93	14576937.59	40°08'15.163"N	104°43'34.831"W	0.43	
11257.00	93.380	87.610	7484.89	3110.61	2671.50	3049.83	1716994.76	14576940.28	40°08'15.187"N	104°43'33.622"W	2.72	
11351.00	90.330	87.020	7481.85	3204.52	2675.90	3143.67	1717088.54	14576944.96	40°08'15.230"N	104°43'32.414"W	3.30	
11445.00	89.550	85.340	7481.95	3298.43	2682.17	3237.45	1717182.27	14576951.50	40°08'15.292"N	104°43'31.207"W	1.97	
11537.00	91.330	85.980	7481.24	3390.29	2689.13	3329.18	1717273.94	14576958.73	40°08'15.360"N	104°43'30.025"W	2.06	
11628.00	90.330	84.400	7479.93	3481.11	2696.76	3419.85	1717364.55	14576966.62	40°08'15.436"N	104°43'28.858"W	2.05	
11720.00	90.820	84.070	7479.00	3572.83	2706.00	3511.38	1717456.02	14576976.13	40°08'15.527"N	104°43'27.680"W	0.64	
11813.00	91.620	84.930	7477.02	3665.56	2714.91	3603.93	1717548.50	14576985.31	40°08'15.615"N	104°43'26.488"W	1.26	
11905.00	90.360	83.770	7475.43	3757.28	2723.97	3695.46	1717639.98	14576994.63	40°08'15.704"N	104°43'25.309"W	1.86	
11997.00	91.840	84.600	7473.67	3848.98	2733.28	3786.97	1717731.42	14577004.22	40°08'15.796"N	104°43'24.131"W	1.84	
12088.00	90.890	84.350	7471.50	3939.70	2742.04	3877.52	1717821.91	14577013.24	40°08'15.883"N	104°43'22.965"W	1.08	
12182.00	89.920	86.460	7470.83	4033.54	2749.57	3971.21	1717915.54	14577021.05	40°08'15.957"N	104°43'21.759"W	2.47	

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23)
Area	COLORADO	Well	HENDU 23-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HENDU 23-4HZ AWB
Facility	SEC.23-T2N-R66W		

WELLPATH DATA (197 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
12275.00	90.410	90.200	7470.57	4126.52	2752.28	4064.15	1718008.43	14577024.03	40°08'15.983"N	104°43'20.562"W	4.06	
12368.00	90.550	90.540	7469.79	4219.48	2751.68	4157.15	1718101.39	14577023.71	40°08'15.977"N	104°43'19.365"W	0.40	
12374.00†	90.515	90.512	7469.73	4225.48	2751.63	4163.15	1718107.39	14577023.67	40°08'15.977"N	104°43'19.288"W	0.74	ENTER RADIUS TOE (2417'FSL & 1705'FEL, SEC.13) 40.1377713 -104.7220243
12459.00	90.020	90.120	7469.33	4310.44	2751.16	4248.14	1718192.36	14577023.45	40°08'15.972"N	104°43'18.193"W	0.74	
12552.00	89.700	90.120	7469.56	4403.41	2750.96	4341.14	1718285.32	14577023.53	40°08'15.970"N	104°43'16.996"W	0.34	
12644.00	89.920	89.940	7469.87	4495.38	2750.92	4433.14	1718377.28	14577023.76	40°08'15.969"N	104°43'15.811"W	0.31	
12738.00	89.720	89.030	7470.16	4589.37	2751.76	4527.14	1718471.24	14577024.88	40°08'15.977"N	104°43'14.601"W	0.99	
12830.00	89.210	88.480	7471.02	4681.37	2753.76	4619.11	1718563.17	14577027.15	40°08'15.997"N	104°43'13.417"W	0.82	
12924.00	90.380	89.280	7471.36	4775.37	2755.60	4713.09	1718657.10	14577029.26	40°08'16.015"N	104°43'12.207"W	1.51	
13015.00	90.010	88.620	7471.05	4866.36	2757.26	4804.07	1718748.04	14577031.20	40°08'16.031"N	104°43'11.035"W	0.83	
13108.00	89.780	88.450	7471.22	4959.36	2759.64	4897.04	1718840.97	14577033.85	40°08'16.055"N	104°43'09.838"W	0.31	
13200.00	89.440	88.190	7471.84	5051.36	2762.34	4989.00	1718932.88	14577036.82	40°08'16.081"N	104°43'08.654"W	0.47	
13294.00	91.470	88.960	7471.10	5145.35	2764.68	5082.96	1719026.80	14577039.43	40°08'16.104"N	104°43'07.444"W	2.31	
13386.00	91.920	89.110	7468.38	5237.31	2766.23	5174.91	1719118.71	14577041.25	40°08'16.119"N	104°43'06.261"W	0.52	
13478.00	92.120	88.580	7465.13	5329.25	2768.08	5266.83	1719210.59	14577043.38	40°08'16.137"N	104°43'05.077"W	0.62	
13538.00	92.240	88.400	7462.85	5389.21	2769.66	5326.77	1719270.49	14577045.13	40°08'16.153"N	104°43'04.305"W	0.36	LAST BHGE MWD+IFR1+MSA SURVEY
13597.00	92.240	88.400	7460.55	5448.16	2771.30	5385.70	1719329.40	14577046.95	40°08'16.169"N	104°43'03.546"W	0.00	PTB (2437'FSL & 482'FEL, SEC.13) 40.1378247 -104.7176518

HOLE & CASING SECTIONS - Ref Wellbore: HENDU 23-4HZ AWB Ref Wellpath: HENDU 23-4HZ 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	21.00	1919.00	1898.00	21.00	1845.60	0.00	0.00	398.21	-79.13

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23)
Area	COLORADO	Well	HENDU 23-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HENDU 23-4HZ AWB
Facility	SEC.23-T2N-R66W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.13-T2N-R66W	0.00	-0.73	-45.02	1713909.05	14574259.96	40°07'48.781"N	104°44'13.470"W	polygon
SEC.14-T2N-R66W	0.00	-0.73	-45.02	1713909.05	14574259.96	40°07'48.781"N	104°44'13.470"W	polygon
SEC.23-T2N-R66W	0.00	-0.73	-45.02	1713909.05	14574259.96	40°07'48.781"N	104°44'13.470"W	polygon
SEC.24-T2N-R66W	0.00	-0.73	-45.02	1713909.05	14574259.96	40°07'48.781"N	104°44'13.470"W	polygon
HENDU 23-4HZ BHL REV-1 (2368'FSL & 479'FEL, SEC.13)	7517.00	2702.20	5388.71	1719332.61	14576977.89	40°08'15.486"N	104°43'03.508"W	point
HENDU 23-4HZ BHL REV-3 (2421'FSL & 479'FEL, SEC.13)	7517.00	2755.20	5388.71	1719332.45	14577030.87	40°08'16.010"N	104°43'03.508"W	point
HENDU 23-4HZ HEEL REV-1 (2343'FSL & 213'FEL, SEC.14)	7542.00	2639.28	361.26	1714307.36	14576900.12	40°08'14.870"N	104°44'08.239"W	point
HENDU 23-4HZ LANDBOX	7542.00	0.00	0.00	1713954.05	14574260.83	40°07'48.788"N	104°44'12.890"W	polygon
HENDU 23-4HZ RADIUS 1	7542.00	3008.03	4544.87	1718488.20	14577281.10	40°08'18.510"N	104°43'14.372"W	polygon
HENDU 23-4HZ RADIUS 2	7542.00	2956.66	574.53	1714519.60	14577218.00	40°08'18.006"N	104°44'05.493"W	polygon

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23)
Area	COLORADO	Well	HENDU 23-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HENDU 23-4HZ AWB
Facility	SEC.23-T2N-R66W		

WELLPATH COMPOSITION - Ref Wellbore: HENDU 23-4HZ AWB Ref Wellpath: HENDU 23-4HZ AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
21.00	1873.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)	Custom APC ISCWSA Rev-2 MWD+IFR1 <129 - 1873>	HENDU 23-4HZ AWB
1873.00	13538.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)	BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <2022 - 13538>	HENDU 23-4HZ AWB
13538.00	13597.00	Blind Drilling (std)	Projection to bit	HENDU 23-4HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#42 HENDU 23-4HZ (293'FNL & 569'FEL, SEC.23)
Area	COLORADO	Well	HENDU 23-4HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	HENDU 23-4HZ AWB
Facility	SEC.23-T2N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
129.00	0.660	3.660	129.00	FIRST SURFACE MWD+IFR1 SURVEY
1873.00	29.220	356.180	1805.59	LAST SURFACE MWD+IFR1 SURVEY
2022.00	31.400	355.190	1934.21	FIRST BHGE MWD+IFR1+MSA SURVEY
7445.00	4.618	80.406	6789.10	KOP
7702.00	25.388	90.694	7035.07	ENTER LANDBOX (2335'FSL & 862'FEL,SEC.14) 40.1374408 -104.7379625
8579.00	87.425	89.106	7532.76	LANDING (2351'FSL & 200'FEL,SEC.14) 40.1374859 -104.7355782
9135.00	91.264	88.492	7522.14	EXIT RADIUS HEEL (2368'FSL & 360'FWL,SEC.13) 40.1375325 -104.7335914
12374.00	90.515	90.512	7469.73	ENTER RADIUS TOE (2417'FSL & 1705'FEL,SEC.13) 40.1377713 -104.7220243
13538.00	92.240	88.400	7462.85	LAST BHGE MWD+IFR1+MSA SURVEY
13597.00	92.240	88.400	7460.55	PTB (2437'FSL & 482'FEL,SEC.13) 40.1378247 -104.7176518