

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#57 VERDE 13-12HZ (904'FNL & 2632'FWL,SEC.13)
Area	COLORADO	Well	VERDE 13-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VERDE 13-12HZ AWB
Facility	SEC.13-T1N-R66W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 13 North, US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Painsetr
Scale	0.999607	Report Generated	5/8/2018 at 11:09 AM
Convergence at slot	0.18° East	Database/Source file	WA_DEN_Anadarko_Defn/VERDE_13-12HZ_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-686.69	-247.43	1717224.99	14547268.92	40°03'21.848"N	104°43'31.836"W
Facility Reference Pt			1717470.20	14547956.10	40°03'28.634"N	104°43'28.654"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 564 (26') (RT) to Facility Vertical Datum	5098.00ft
Horizontal Reference Pt	Slot	PD 564 (26') (RT) to Mean Sea Level	5098.00ft
Vertical Reference Pt	PD 564 (26') (RT)	PD 564 (26') (RT) to Mud Line at Slot (SLOT#57 VERDE 13-12HZ (904'FNL & 2632'FWL,SEC.13))	5098.00ft
MD Reference Pt	PD 564 (26') (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.97°

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WELLPATH DATA (163 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	0.00	331.260	0.00	0.00	0.00	0.00	1717224.99	14547268.92	40°03'21.848"N	104°43'31.836"W	0.00	
26.00	0.000	331.260	26.00	0.00	0.00	0.00	1717224.99	14547268.92	40°03'21.848"N	104°43'31.836"W	0.00	
136.00	0.220	331.260	136.00	0.19	0.19	-0.10	1717224.89	14547269.11	40°03'21.850"N	104°43'31.837"W	0.20	FIRST SURFACE MWD+IFR1 SURVEY
167.00	0.220	293.380	167.00	0.26	0.26	-0.18	1717224.81	14547269.18	40°03'21.851"N	104°43'31.838"W	0.46	
199.00	0.400	331.000	199.00	0.38	0.38	-0.30	1717224.70	14547269.31	40°03'21.852"N	104°43'31.840"W	0.82	
231.00	0.400	314.210	231.00	0.56	0.56	-0.43	1717224.56	14547269.48	40°03'21.854"N	104°43'31.842"W	0.36	
294.00	0.480	307.450	294.00	0.87	0.87	-0.80	1717224.19	14547269.79	40°03'21.857"N	104°43'31.846"W	0.15	
325.00	0.750	335.310	324.99	1.14	1.14	-0.98	1717224.00	14547270.06	40°03'21.859"N	104°43'31.849"W	1.28	
357.00	0.830	333.810	356.99	1.53	1.53	-1.17	1717223.81	14547270.45	40°03'21.863"N	104°43'31.851"W	0.26	
420.00	0.090	332.670	419.99	1.99	1.99	-1.40	1717223.59	14547270.91	40°03'21.868"N	104°43'31.854"W	1.17	
451.00	0.310	128.410	450.99	1.96	1.96	-1.34	1717223.64	14547270.88	40°03'21.867"N	104°43'31.853"W	1.27	
483.00	0.350	122.080	482.99	1.85	1.85	-1.19	1717223.79	14547270.77	40°03'21.866"N	104°43'31.851"W	0.17	
514.00	0.350	146.430	513.99	1.72	1.72	-1.06	1717223.93	14547270.64	40°03'21.865"N	104°43'31.850"W	0.48	
546.00	0.620	145.380	545.99	1.50	1.50	-0.91	1717224.08	14547270.42	40°03'21.863"N	104°43'31.848"W	0.84	
578.00	0.700	144.760	577.98	1.20	1.20	-0.70	1717224.29	14547270.12	40°03'21.860"N	104°43'31.845"W	0.25	
610.00	1.360	128.760	609.98	0.80	0.80	-0.29	1717224.70	14547269.72	40°03'21.856"N	104°43'31.840"W	2.23	
642.00	1.850	119.100	641.97	0.31	0.31	0.46	1717225.45	14547269.23	40°03'21.851"N	104°43'31.830"W	1.74	
673.00	2.200	118.570	672.95	-0.22	-0.22	1.42	1717226.41	14547268.71	40°03'21.846"N	104°43'31.818"W	1.13	
705.00	2.500	120.940	704.92	-0.87	-0.87	2.56	1717227.55	14547268.06	40°03'21.839"N	104°43'31.803"W	0.99	
737.00	2.940	117.870	736.88	-1.62	-1.61	3.88	1717228.88	14547267.32	40°03'21.832"N	104°43'31.786"W	1.45	
769.00	3.560	110.220	768.83	-2.34	-2.34	5.54	1717230.54	14547266.60	40°03'21.825"N	104°43'31.765"W	2.36	
800.00	4.000	107.670	799.77	-3.01	-3.00	7.47	1717232.47	14547265.95	40°03'21.818"N	104°43'31.740"W	1.52	
832.00	4.790	105.820	831.67	-3.71	-3.70	9.82	1717234.82	14547265.25	40°03'21.811"N	104°43'31.710"W	2.51	
864.00	5.580	104.330	863.54	-4.46	-4.45	12.61	1717237.62	14547264.51	40°03'21.804"N	104°43'31.674"W	2.50	
896.00	6.460	100.810	895.36	-5.18	-5.18	15.89	1717240.89	14547263.80	40°03'21.797"N	104°43'31.632"W	2.98	
927.00	7.160	99.850	926.14	-5.84	-5.83	19.51	1717244.51	14547263.15	40°03'21.790"N	104°43'31.585"W	2.29	
959.00	7.470	100.020	957.88	-6.55	-6.54	23.52	1717248.52	14547262.46	40°03'21.783"N	104°43'31.534"W	0.97	
991.00	8.090	100.460	989.59	-7.32	-7.31	27.78	1717252.79	14547261.70	40°03'21.776"N	104°43'31.479"W	1.95	
1023.00	9.320	99.140	1021.22	-8.15	-8.13	32.55	1717257.56	14547260.90	40°03'21.768"N	104°43'31.417"W	3.89	
1054.00	10.330	96.680	1051.76	-8.87	-8.85	37.79	1717262.80	14547260.19	40°03'21.761"N	104°43'31.350"W	3.53	
1086.00	11.290	96.600	1083.20	-9.57	-9.54	43.76	1717268.76	14547259.52	40°03'21.754"N	104°43'31.273"W	3.00	
1118.00	11.470	97.740	1114.57	-10.36	-10.33	50.02	1717275.02	14547258.75	40°03'21.746"N	104°43'31.193"W	0.90	
1149.00	12.040	97.470	1144.92	-11.20	-11.17	56.28	1717281.28	14547257.93	40°03'21.738"N	104°43'31.112"W	1.85	
1181.00	12.570	96.330	1176.18	-12.02	-11.99	63.05	1717288.05	14547257.14	40°03'21.730"N	104°43'31.025"W	1.82	
1213.00	13.140	96.160	1207.38	-12.80	-12.76	70.13	1717295.13	14547256.38	40°03'21.722"N	104°43'30.934"W	1.79	
1245.00	13.320	96.240	1238.53	-13.59	-13.55	77.41	1717302.41	14547255.62	40°03'21.714"N	104°43'30.841"W	0.57	
1277.00	13.930	95.540	1269.63	-14.37	-14.32	84.91	1717309.91	14547254.87	40°03'21.706"N	104°43'30.744"W	1.97	
1309.00	14.370	93.170	1300.66	-14.96	-14.91	92.70	1717317.71	14547254.30	40°03'21.701"N	104°43'30.644"W	2.27	
1340.00	15.070	90.970	1330.64	-15.25	-15.20	100.58	1717325.57	14547254.04	40°03'21.698"N	104°43'30.543"W	2.89	
1372.00	15.470	90.970	1361.51	-15.40	-15.34	109.00	1717334.00	14547253.93	40°03'21.696"N	104°43'30.434"W	1.25	
1404.00	16.220	94.490	1392.30	-15.82	-15.76	117.72	1717342.72	14547253.53	40°03'21.692"N	104°43'30.322"W	3.81	
1435.00	16.920	96.330	1422.01	-16.67	-16.60	126.52	1717351.52	14547252.72	40°03'21.684"N	104°43'30.209"W	2.82	
1467.00	17.400	97.390	1452.58	-17.80	-17.73	135.90	1717360.89	14547251.62	40°03'21.673"N	104°43'30.088"W	1.79	
1499.00	17.930	95.890	1483.08	-18.93	-18.85	145.54	1717370.53	14547250.53	40°03'21.662"N	104°43'29.964"W	2.18	
1530.00	17.840	95.800	1512.58	-19.90	-19.82	155.01	1717380.01	14547249.59	40°03'21.652"N	104°43'29.843"W	0.30	

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WELLPATH DATA (163 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
1562.00	18.240	95.720	1543.00	-20.90	-20.81	164.87	1717389.86	14547248.63	40°03'21.642"N	104°43'29.716"W	1.25	
1594.00	18.410	96.330	1573.38	-21.96	-21.87	174.88	1717399.87	14547247.60	40°03'21.632"N	104°43'29.587"W	0.80	
1625.00	18.370	99.580	1602.80	-23.32	-23.22	184.56	1717409.55	14547246.28	40°03'21.619"N	104°43'29.463"W	3.31	
1657.00	18.410	101.080	1633.17	-25.14	-25.03	194.49	1717419.48	14547244.50	40°03'21.601"N	104°43'29.335"W	1.48	
1689.00	18.810	101.430	1663.49	-27.13	-27.02	204.51	1717429.50	14547242.54	40°03'21.581"N	104°43'29.206"W	1.30	
1721.00	19.200	101.610	1693.75	-29.22	-29.10	214.72	1717439.71	14547240.49	40°03'21.560"N	104°43'29.075"W	1.23	
1752.00	20.040	102.480	1722.95	-31.40	-31.28	224.90	1717449.90	14547238.35	40°03'21.539"N	104°43'28.944"W	2.87	
1784.00	19.340	101.340	1753.08	-33.63	-33.51	235.45	1717460.45	14547236.16	40°03'21.517"N	104°43'28.808"W	2.50	
1816.00	19.250	100.990	1783.28	-35.69	-35.55	245.82	1717470.82	14547234.14	40°03'21.497"N	104°43'28.675"W	0.46	
1837.00	18.980	99.850	1803.12	-36.93	-36.80	252.58	1717477.59	14547232.92	40°03'21.484"N	104°43'28.588"W	2.19	LAST SURFACE MWD+IFR1 SURVEY
1932.00	17.920	97.290	1893.24	-41.45	-41.29	282.30	1717507.31	14547228.52	40°03'21.440"N	104°43'28.206"W	1.40	FIRST BHGE MWD+IFR1+MSA SURVEY OWB
2021.00	19.610	98.830	1977.51	-45.49	-45.32	310.64	1717535.65	14547224.57	40°03'21.400"N	104°43'27.841"W	1.98	
2111.00	18.830	98.600	2062.49	-50.00	-49.81	339.93	1717564.94	14547220.18	40°03'21.356"N	104°43'27.464"W	0.87	
2200.00	19.760	102.890	2146.49	-55.52	-55.32	368.80	1717593.81	14547214.76	40°03'21.301"N	104°43'27.093"W	1.90	
2290.00	18.900	102.780	2231.42	-62.15	-61.94	397.84	1717622.87	14547208.24	40°03'21.236"N	104°43'26.720"W	0.96	
2379.00	18.280	102.430	2315.77	-68.36	-68.13	425.53	1717650.56	14547202.13	40°03'21.175"N	104°43'26.364"W	0.71	
2468.00	18.630	105.910	2400.20	-75.28	-75.03	452.83	1717677.88	14547195.32	40°03'21.106"N	104°43'26.012"W	1.30	
2558.00	17.630	104.790	2485.73	-82.71	-82.45	479.84	1717704.89	14547187.98	40°03'21.033"N	104°43'25.665"W	1.18	
2647.00	18.950	105.870	2570.23	-90.12	-89.84	506.77	1717731.84	14547180.68	40°03'20.960"N	104°43'25.319"W	1.53	
2736.00	17.830	104.440	2654.69	-97.48	-97.19	533.87	1717758.95	14547173.41	40°03'20.887"N	104°43'24.970"W	1.36	
2826.00	18.860	108.210	2740.11	-105.48	-105.18	561.03	1717786.12	14547165.52	40°03'20.809"N	104°43'24.621"W	1.75	
2916.00	19.500	108.090	2825.12	-114.71	-114.39	589.13	1717814.24	14547156.40	40°03'20.718"N	104°43'24.260"W	0.71	
3005.00	17.600	107.880	2909.49	-123.46	-123.13	616.06	1717841.18	14547147.74	40°03'20.631"N	104°43'23.913"W	2.14	
3095.00	16.030	107.010	2995.64	-131.29	-130.94	640.89	1717866.03	14547140.01	40°03'20.554"N	104°43'23.594"W	1.77	
3184.00	14.490	106.670	3081.50	-138.09	-137.73	663.31	1717888.46	14547133.29	40°03'20.487"N	104°43'23.306"W	1.73	
3273.00	13.240	107.170	3167.90	-144.31	-143.94	683.71	1717908.88	14547127.15	40°03'20.425"N	104°43'23.043"W	1.41	
3363.00	11.920	105.660	3255.74	-149.87	-149.49	702.51	1717927.68	14547121.66	40°03'20.371"N	104°43'22.802"W	1.51	
3452.00	12.550	107.630	3342.72	-155.29	-154.90	720.58	1717945.76	14547116.31	40°03'20.317"N	104°43'22.569"W	0.85	
3541.00	10.750	107.480	3429.88	-160.72	-160.32	737.71	1717962.90	14547110.94	40°03'20.264"N	104°43'22.349"W	2.02	
3631.00	9.150	106.050	3518.53	-165.23	-164.82	752.59	1717977.79	14547106.49	40°03'20.219"N	104°43'22.158"W	1.80	
3720.00	8.070	102.760	3606.52	-168.57	-168.16	765.49	1717990.69	14547103.19	40°03'20.186"N	104°43'21.992"W	1.33	
3810.00	6.840	102.260	3695.76	-171.11	-170.69	776.89	1718002.09	14547100.70	40°03'20.161"N	104°43'21.845"W	1.37	
3900.00	5.910	101.410	3785.20	-173.17	-172.74	786.67	1718011.88	14547098.67	40°03'20.141"N	104°43'21.719"W	1.04	
3989.00	4.910	96.700	3873.81	-174.53	-174.10	794.94	1718020.15	14547097.35	40°03'20.127"N	104°43'21.613"W	1.23	
4079.00	4.190	92.840	3963.52	-175.14	-174.71	802.05	1718027.26	14547096.76	40°03'20.121"N	104°43'21.522"W	0.87	
4168.00	3.720	81.260	4052.31	-174.87	-174.43	808.15	1718033.36	14547097.05	40°03'20.124"N	104°43'21.443"W	1.04	
4258.00	3.390	77.510	4142.14	-173.85	-173.41	813.63	1718038.84	14547098.09	40°03'20.134"N	104°43'21.373"W	0.45	
4347.00	2.370	107.330	4231.03	-173.83	-173.39	817.96	1718043.16	14547098.12	40°03'20.134"N	104°43'21.317"W	2.00	
4436.00	2.030	92.920	4319.96	-174.46	-174.02	821.29	1718046.49	14547097.51	40°03'20.128"N	104°43'21.274"W	0.73	
4526.00	2.590	133.220	4409.90	-175.94	-175.49	824.37	1718049.57	14547096.04	40°03'20.114"N	104°43'21.235"W	1.86	
4615.00	2.070	127.690	4498.82	-178.30	-177.85	827.10	1718052.31	14547093.69	40°03'20.090"N	104°43'21.199"W	0.64	
4705.00	1.500	198.010	4588.79	-180.41	-179.97	828.02	1718053.24	14547091.58	40°03'20.069"N	104°43'21.188"W	2.34	
4820.00	0.500	199.880	4703.77	-182.32	-181.87	827.39	1718052.61	14547089.68	40°03'20.051"N	104°43'21.196"W	0.87	
4910.00	0.350	228.540	4793.77	-182.87	-182.42	827.05	1718052.27	14547089.12	40°03'20.045"N	104°43'21.200"W	0.28	
4999.00	0.580	245.970	4882.76	-183.23	-182.78	826.43	1718051.66	14547088.76	40°03'20.042"N	104°43'21.208"W	0.30	

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5089.00	0.590	239.790	4972.76	-183.65	-183.20	825.62	1718050.84	14547088.34	40°03'20.037"N	104°43'21.219"W	0.07	
5178.00	0.450	180.520	5061.76	-184.23	-183.78	825.22	1718050.45	14547087.76	40°03'20.032"N	104°43'21.224"W	0.59	
5268.00	0.770	164.770	5151.75	-185.17	-184.72	825.37	1718050.61	14547086.82	40°03'20.022"N	104°43'21.222"W	0.40	
5358.00	0.800	136.670	5241.74	-186.21	-185.76	825.96	1718051.20	14547085.78	40°03'20.012"N	104°43'21.214"W	0.42	
5447.00	0.830	135.130	5330.73	-187.12	-186.67	826.85	1718052.08	14547084.88	40°03'20.003"N	104°43'21.203"W	0.04	
5537.00	0.510	87.420	5420.73	-187.56	-187.11	827.71	1718052.94	14547084.44	40°03'19.999"N	104°43'21.192"W	0.68	
5626.00	1.380	311.260	5509.72	-186.84	-186.39	827.30	1718052.53	14547085.16	40°03'20.006"N	104°43'21.197"W	2.00	
5716.00	1.390	341.010	5599.70	-185.09	-184.64	826.13	1718051.36	14547086.90	40°03'20.023"N	104°43'21.212"W	0.79	
5805.00	1.650	227.430	5688.68	-184.93	-184.49	824.83	1718050.06	14547087.05	40°03'20.025"N	104°43'21.229"W	2.86	
5895.00	1.180	231.890	5778.65	-186.38	-185.94	823.15	1718048.38	14547085.60	40°03'20.010"N	104°43'21.250"W	0.54	
5984.00	0.910	228.520	5867.64	-187.41	-186.97	821.90	1718047.14	14547084.56	40°03'20.000"N	104°43'21.266"W	0.31	
6074.00	0.350	221.230	5957.63	-188.09	-187.65	821.18	1718046.42	14547083.88	40°03'19.993"N	104°43'21.276"W	0.63	
6163.00	0.430	167.680	6046.63	-188.63	-188.18	821.07	1718046.32	14547083.35	40°03'19.988"N	104°43'21.277"W	0.40	
6253.00	0.430	88.930	6136.63	-188.95	-188.50	821.48	1718046.73	14547083.03	40°03'19.985"N	104°43'21.272"W	0.61	
6342.00	1.030	53.640	6225.62	-188.47	-188.02	822.46	1718047.70	14547083.51	40°03'19.990"N	104°43'21.259"W	0.81	
6432.00	1.230	66.530	6315.60	-187.61	-187.16	824.00	1718049.24	14547084.38	40°03'19.998"N	104°43'21.239"W	0.36	
6521.00	1.270	61.820	6404.58	-186.76	-186.31	825.74	1718050.98	14547085.23	40°03'20.007"N	104°43'21.217"W	0.12	
6611.00	2.870	36.580	6494.52	-184.48	-184.03	827.96	1718053.19	14547087.52	40°03'20.029"N	104°43'21.188"W	2.00	
6701.00	2.480	33.190	6584.42	-181.04	-180.59	830.37	1718055.59	14547090.96	40°03'20.063"N	104°43'21.157"W	0.47	
6714.00†	3.551	17.035	6597.40	-180.42	-179.97	830.65	1718055.86	14547091.58	40°03'20.069"N	104°43'21.154"W	10.44	KOP
6790.00	11.140	355.740	6672.74	-170.84	-170.39	830.79	1718055.98	14547101.17	40°03'20.164"N	104°43'21.152"W	10.44	
6880.00	17.090	358.900	6759.98	-148.92	-148.47	829.89	1718055.01	14547123.07	40°03'20.381"N	104°43'21.164"W	6.66	
6969.00	21.450	352.440	6843.98	-119.70	-119.25	827.50	1718052.52	14547152.27	40°03'20.669"N	104°43'21.194"W	5.45	
7059.00	23.230	357.630	6927.23	-85.64	-85.20	824.60	1718049.52	14547186.30	40°03'21.006"N	104°43'21.232"W	2.95	
7149.00	30.680	4.160	7007.42	-44.94	-44.50	825.53	1718050.33	14547226.99	40°03'21.408"N	104°43'21.220"W	8.90	
7238.00	38.530	5.010	7080.62	5.39	5.84	829.60	1718054.25	14547277.32	40°03'21.906"N	104°43'21.167"W	8.84	
7318.00†	43.911	2.365	7140.77	57.97	58.42	832.93	1718057.41	14547329.89	40°03'22.425"N	104°43'21.124"W	7.07	ENTER LANDBOX (846°FNL & 3465°FNL,SEC.13) 40.0562292 -104.7225346
7327.00	44.520	2.100	7147.22	64.25	64.70	833.17	1718057.63	14547336.16	40°03'22.487"N	104°43'21.121"W	7.07	
7417.00	51.360	0.630	7207.48	131.00	131.46	834.72	1718058.97	14547402.90	40°03'23.147"N	104°43'21.101"W	7.70	
7507.00	58.000	358.590	7259.49	204.39	204.84	834.16	1718058.19	14547476.25	40°03'23.872"N	104°43'21.108"W	7.61	
7596.00	66.690	356.210	7300.76	283.06	283.50	830.53	1718054.31	14547554.87	40°03'24.650"N	104°43'21.155"W	10.05	
7686.00	74.400	355.790	7330.72	367.65	368.09	824.60	1718048.13	14547639.41	40°03'25.485"N	104°43'21.231"W	8.58	
7775.00	82.210	359.730	7348.75	454.65	455.10	821.24	1718044.50	14547726.37	40°03'26.345"N	104°43'21.275"W	9.79	
7821.00†	84.611	1.494	7354.03	500.34	500.78	821.73	1718044.85	14547772.04	40°03'26.797"N	104°43'21.268"W	6.46	LANDING (403°FNL & 3454°FNL,SEC.13) 40.0574435 -104.7225745
7864.00	86.860	3.130	7357.23	543.18	543.63	823.46	1718046.45	14547814.87	40°03'27.220"N	104°43'21.246"W	6.46	
7954.00	90.430	3.270	7359.35	633.00	633.45	828.48	1718051.19	14547904.67	40°03'28.108"N	104°43'21.181"W	3.97	
8043.00	92.280	0.790	7357.25	721.90	722.35	831.64	1718054.07	14547993.55	40°03'28.986"N	104°43'21.141"W	3.48	
8133.00	92.560	0.300	7353.45	811.82	812.27	832.49	1718054.65	14548083.43	40°03'29.875"N	104°43'21.130"W	0.63	
8223.00	92.990	0.010	7349.09	901.71	902.16	832.73	1718054.61	14548173.29	40°03'30.763"N	104°43'21.127"W	0.58	
8312.00	91.200	358.750	7345.84	990.64	991.09	831.77	1718053.38	14548262.18	40°03'31.642"N	104°43'21.139"W	2.46	
8401.00	90.400	357.520	7344.59	1079.59	1080.04	828.88	1718050.21	14548351.08	40°03'32.521"N	104°43'21.176"W	1.65	
8491.00	91.320	357.150	7343.24	1169.48	1169.93	824.69	1718045.75	14548440.92	40°03'33.409"N	104°43'21.230"W	1.10	
8580.00	89.750	357.850	7342.41	1258.39	1258.83	820.81	1718041.59	14548529.78	40°03'34.288"N	104°43'21.280"W	1.93	
8670.00	89.660	357.560	7342.88	1348.32	1348.76	817.21	1718037.72	14548619.66	40°03'35.177"N	104°43'21.326"W	0.34	
8689.00†	89.510	357.351	7343.01	1367.30	1367.74	816.36	1718036.81	14548638.63	40°03'35.364"N	104°43'21.337"W	1.35	CROSS SETBACK HEEL (464°FSL & 3448°FNL,SEC.12) 40.0598234 -104.7225936

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#57 VERDE 13-12HZ (904'FNL & 2632'FWL,SEC.13)
Area	COLORADO	Well	VERDE 13-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VERDE 13-12HZ AWB
Facility	SEC.13-T1N-R66W		

WELLPATH DATA (163 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
8760.00	88.950	356.570	7343.97	1438.20	1438.64	812.60	1718032.83	14548709.49	40°03'36.065"N	104°43'21.385"W	1.35	
8849.00	89.510	356.840	7345.16	1527.04	1527.48	807.48	1718027.45	14548798.28	40°03'36.943"N	104°43'21.451"W	0.70	
8939.00	90.400	356.600	7345.23	1616.90	1617.33	802.33	1718022.02	14548888.08	40°03'37.831"N	104°43'21.517"W	1.02	
9028.00	91.510	359.730	7343.75	1705.83	1706.26	799.48	1718018.90	14548976.97	40°03'38.710"N	104°43'21.554"W	3.73	
9118.00	90.830	0.000	7341.91	1795.81	1796.24	799.27	1718018.41	14549066.91	40°03'39.599"N	104°43'21.556"W	0.81	
9207.00	89.720	0.870	7341.49	1884.80	1885.24	799.95	1718018.81	14549155.87	40°03'40.478"N	104°43'21.548"W	1.58	
9297.00	89.910	0.710	7341.78	1974.79	1975.23	801.19	1718019.77	14549245.83	40°03'41.367"N	104°43'21.532"W	0.28	
9386.00	90.710	0.660	7341.30	2063.78	2064.22	802.25	1718020.56	14549334.79	40°03'42.247"N	104°43'21.518"W	0.90	
9476.00	89.970	0.360	7340.76	2153.78	2154.21	803.05	1718021.09	14549424.75	40°03'43.136"N	104°43'21.508"W	0.89	
9565.00	90.830	0.220	7340.14	2242.77	2243.21	803.50	1718021.26	14549513.71	40°03'44.016"N	104°43'21.502"W	0.98	
9655.00	88.580	359.440	7340.60	2332.76	2333.20	803.24	1718020.72	14549603.67	40°03'44.905"N	104°43'21.505"W	2.65	
9744.00	88.490	359.290	7342.88	2421.73	2422.16	802.25	1718019.46	14549692.59	40°03'45.784"N	104°43'21.518"W	0.20	
9834.00	89.050	359.330	7344.81	2511.70	2512.14	801.17	1718018.10	14549782.53	40°03'46.673"N	104°43'21.532"W	0.62	
9923.00	89.450	359.300	7345.98	2600.69	2601.12	800.10	1718016.76	14549871.47	40°03'47.553"N	104°43'21.545"W	0.45	
10013.00	90.400	359.170	7346.09	2690.68	2691.11	798.90	1718015.28	14549961.42	40°03'48.442"N	104°43'21.561"W	1.07	
10102.00	88.770	0.490	7346.74	2779.67	2780.11	798.64	1718014.74	14550050.38	40°03'49.321"N	104°43'21.564"W	2.36	
10192.00	89.110	1.430	7348.40	2869.64	2870.08	800.15	1718015.97	14550140.32	40°03'50.211"N	104°43'21.545"W	1.11	
10281.00	89.170	2.010	7349.74	2958.59	2959.03	802.82	1718018.37	14550229.24	40°03'51.090"N	104°43'21.510"W	0.66	
10370.00	89.380	1.790	7350.86	3047.53	3047.97	805.77	1718021.04	14550318.16	40°03'51.969"N	104°43'21.472"W	0.34	
10460.00	90.460	1.640	7350.99	3137.49	3137.93	808.46	1718023.46	14550408.09	40°03'52.858"N	104°43'21.438"W	1.21	
10549.00	90.400	1.590	7350.32	3226.45	3226.89	810.97	1718025.69	14550497.02	40°03'53.737"N	104°43'21.405"W	0.09	
10639.00	90.860	1.030	7349.33	3316.42	3316.86	813.03	1718027.47	14550586.96	40°03'54.626"N	104°43'21.379"W	0.81	
10728.00	92.030	1.970	7347.09	3405.36	3405.80	815.36	1718029.53	14550675.87	40°03'55.505"N	104°43'21.349"W	1.69	
10818.00	90.550	2.410	7345.06	3495.27	3495.71	818.79	1718032.69	14550765.76	40°03'56.393"N	104°43'21.305"W	1.72	
10907.00	88.920	0.330	7345.47	3584.23	3584.67	820.92	1718034.54	14550854.69	40°03'57.272"N	104°43'21.277"W	2.97	
11086.00	89.690	1.190	7347.65	3763.20	3763.64	823.30	1718036.36	14551033.60	40°03'59.041"N	104°43'21.247"W	0.64	
11176.00	92.060	5.420	7346.27	3853.01	3853.46	828.48	1718041.27	14551123.39	40°03'59.929"N	104°43'21.180"W	5.39	LAST BHGE MWD+IFR1+MSA SURVEY OWB
11252.00	92.060	5.420	7343.54	3928.61	3929.07	835.66	1718048.20	14551198.99	40°04'00.676"N	104°43'21.088"W	0.00	PTB OWB (3025'FSL & 3468'FWL,SEC.12) 40.0668544 -104.7225243

HOLE & CASING SECTIONS - Ref Wellbore: VERDE 13-12HZ AWB Ref Wellpath: VERDE 13-12HZ 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	1876.00	1850.00	26.00	1840.05	0.00	0.00	-38.83	264.96

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#57 VERDE 13-12HZ (904'FNL & 2632'FWL,SEC.13)
Area	COLORADO	Well	VERDE 13-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VERDE 13-12HZ AWB
Facility	SEC.13-T1N-R66W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.01-T1N-R66W	-24.00	-16.32	-1851.77	1715374.02	14547246.90	40°03'21.686"N	104°43'55.650"W	polygon
SEC.12-T1N-R66W	-24.00	-16.32	-1851.77	1715374.02	14547246.90	40°03'21.686"N	104°43'55.650"W	polygon
VERDE 13-12HZ LANDBOX	7357.00	0.00	0.00	1717224.99	14547268.92	40°03'21.848"N	104°43'31.836"W	polygon
VERDE 13-12HZ SETBACK 1	7357.00	0.00	0.00	1717224.99	14547268.92	40°03'21.848"N	104°43'31.836"W	polygon
VERDE 13-12HZ SETBACK 2	7357.00	0.00	0.00	1717224.99	14547268.92	40°03'21.848"N	104°43'31.836"W	polygon
VERDE 13-12HZ BHL REV-1(52'FNL & 1816'FEL,SEC.01)	7358.00	11372.18	833.27	1718022.88	14558639.12	40°05'14.230"N	104°43'21.115"W	point
VERDE 13-12HZ BHL REV-2(52'FNL & 1836'FEL,SEC.01)	7358.00	11372.18	813.27	1718002.89	14558639.06	40°05'14.230"N	104°43'21.372"W	point
VERDE 13-12HZ HEEL REV-1(370'FNL & 1844'FEL,SEC.13)	7358.00	538.86	819.10	1718042.11	14547810.09	40°03'27.173"N	104°43'21.302"W	point

WELLPATH COMPOSITION - Ref Wellbore: VERDE 13-12HZ AWB					Ref Wellpath: VERDE 13-12HZ AWP	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model		Log Name/Comment		Wellbore
26.00	1837.00	Custom APC ISCWSA REV 2 MWD+IFR1 (approximation)		Custom APC ISCWSA Rev-2 MWD+IFR1 <136 - 1837>		VERDE 13-12HZ AWB
1837.00	11176.00	Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation)		Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1932 - 11176>		VERDE 13-12HZ AWB
11176.00	11252.00	Blind Drilling (std)		Projection to bit		VERDE 13-12HZ AWB

REFERENCE WELLPATH IDENTIFICATION			
Operator	KERR-MCGEE OIL & GAS ONSHORE LP (WA)	Slot	SLOT#57 VERDE 13-12HZ (904'FNL & 2632'FWL,SEC.13)
Area	COLORADO	Well	VERDE 13-12HZ
Field	WELD COUNTY (UTM/TRUE NORTH)	Wellbore	VERDE 13-12HZ AWB
Facility	SEC.13-T1N-R66W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
136.00	0.220	331.260	136.00	FIRST SURFACE MWD+IFR1 SURVEY
1837.00	18.980	99.850	1803.12	LAST SURFACE MWD+IFR1 SURVEY
1932.00	17.920	97.290	1893.24	FIRST BHGE MWD+IFR1+MSA SURVEY OWB
6714.00	3.551	17.035	6597.40	KOP
7318.00	43.911	2.365	7140.77	ENTER LANDBOX (846'FNL & 3465'FWL,SEC.13) 40.0562292 -104.7225346
7821.00	84.611	1.494	7354.03	LANDING (403'FNL & 3454'FWL,SEC.13) 40.0574435 -104.7225745
8689.00	89.510	357.351	7343.01	CROSS SETBACK HEEL (464'FSL & 3448'FWL,SEC.12) 40.0598234 -104.7225936
11176.00	92.060	5.420	7346.27	LAST BHGE MWD+IFR1+MSA SURVEY OWB
11252.00	92.060	5.420	7343.54	PTB OWB (3025'FSL & 3468'FWL,SEC.12) 40.0668544 -104.7225243