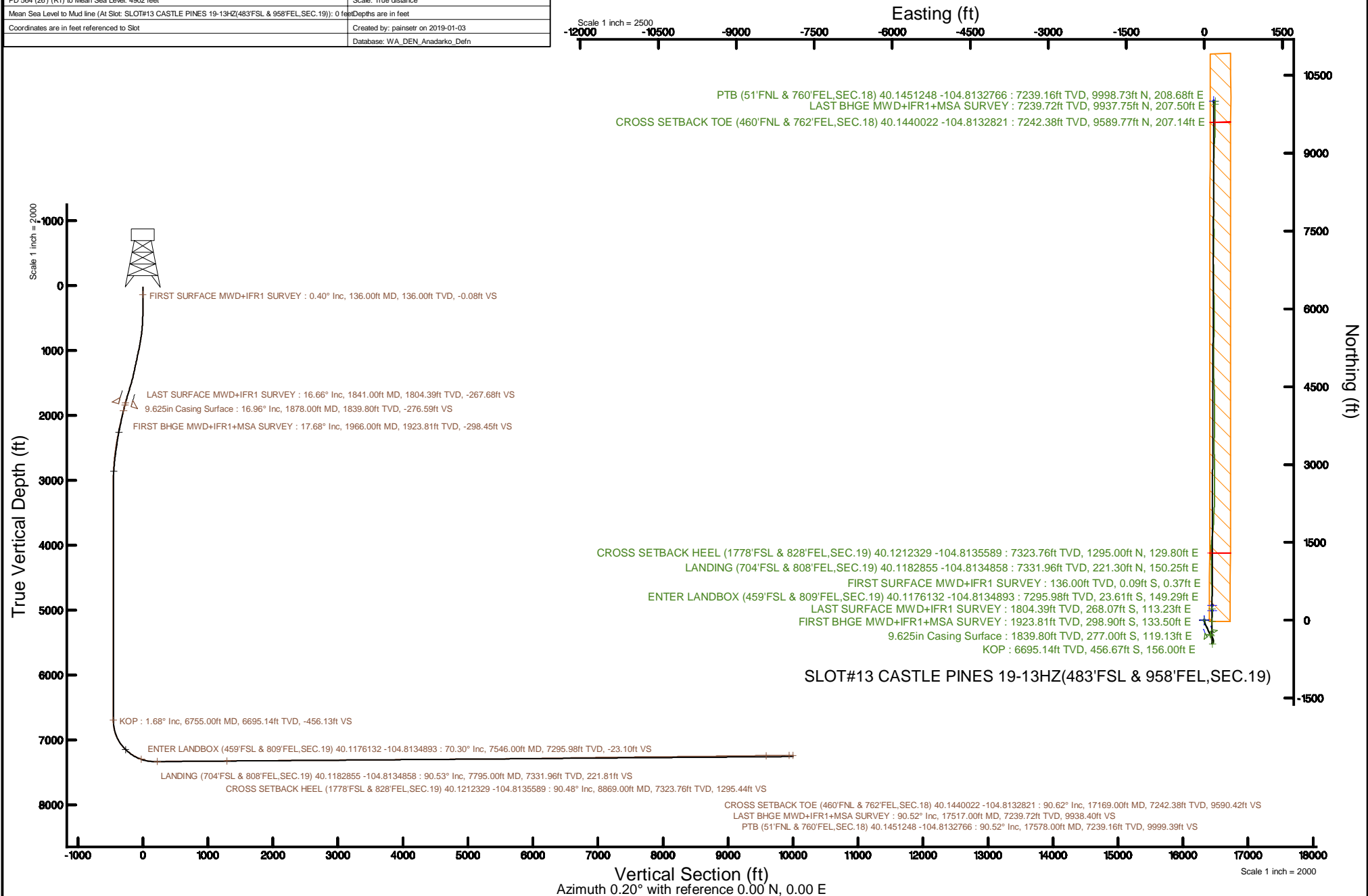


KERR-MCGEE OIL & GAS ONSHORE LP (WA)

Location: COLORADO Slot: SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19)
 Field: WELD COUNTY (UTM/TRUE NORTH) Well: CASTLE PINES 19-13HZ
 Facility: SEC.19-T2N-R66W Wellbore: CASTLE PINES 19-13HZ PWB

| | |
|--|--|
| Plot reference wellpath is CASTLE PINES 19-13HZ PWP Rev-A.0 | Grid System: NAD83 / UTM Zone 13 North, US feet |
| True vertical depths are referenced to PD 564 (26) (RT) | * = Wellpath was transformed from a different geodetic datum |
| Measured depths are referenced to PD 564 (26) (RT) | North Reference: True north |
| PD 564 (26) (RT) to Mean Sea Level: 4902 feet | Scale: True distance |
| Mean Sea Level to Mud line (At Slot: SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19)): 0 feet | Depths are in feet |
| Coordinates are in feet referenced to Slot | Created by: painsetr on 2019-01-03 |
| | Database: WA_DEN_Anadarko_Defn |



| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|--------------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP (WA) | Slot | SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19) |
| Area | COLORADO | Well | CASTLE PINES 19-13HZ |
| Field | WELD COUNTY (UTM/TRUE NORTH) | Wellbore | CASTLE PINES 19-13HZ AWP |
| Facility | SEC.19-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 | 0.999603 | Report Generated | 1/3/2019 at 9:42 AM |
| Convergence at slot | 0.12° East | Database/Source file | WA_DEN_Anadarko_Defn/CASTLE_PINES_19-13HZ_AWP.xml |

| WELLPATH LOCATION | | | | | | |
|-----------------------|-------------------|----------|------------------|-----------------|------------------------|-----------------|
| | Local coordinates | | Grid coordinates | | Geographic coordinates | |
| | North[ft] | East[ft] | Easting[US ft] | Northing[US ft] | Latitude | Longitude |
| Slot Location | -1.42 | 179.85 | 1692410.19 | 14569639.62 | 40°07'03.641"N | 104°48'50.483"W |
| Facility Reference Pt | | | 1692230.40 | 14569640.66 | 40°07'03.655"N | 104°48'52.798"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 | 4902.00ft |
| Horizontal Reference Pt | Slot | PD 564 (26') (RT) to Mean Sea Level | 4902.00ft |
| Vertical Reference Pt | PD 564 (26') (RT) | PD 564 (26') (RT) to Mud Line at Slot (SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19)) | 4902.00ft |
| MD Reference Pt | PD 564 (26') (RT) | Section Origin | N 0.00, E 0.00 ft |
| Field Vertical Reference | Mean Sea Level | Section Azimuth | 0.20° |

| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|--------------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP (WA) | Slot | SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19) |
| Area | COLORADO | Well | CASTLE PINES 19-13HZ |
| Field | WELD COUNTY (UTM/TRUE NORTH) | Wellbore | CASTLE PINES 19-13HZ AWB |
| Facility | SEC.19-T2N-R66W | | |

| WELLPATH DATA (198 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 | 102.920 | 0.00 | 0.00 | 0.00 | 0.00 | 1692410.19 | 14569639.62 | 40°07'03.641"N | 104°48'50.483"W | 0.00 | |
| 26.00 | 0.000 | 102.920 | 26.00 | 0.00 | 0.00 | 0.00 | 1692410.19 | 14569639.62 | 40°07'03.641"N | 104°48'50.483"W | 0.00 | |
| 136.00 | 0.400 | 102.920 | 136.00 | -0.08 | -0.09 | 0.37 | 1692410.56 | 14569639.53 | 40°07'03.640"N | 104°48'50.478"W | 0.36 | FIRST SURFACE MWD+IFR1 SURVEY |
| 231.00 | 0.350 | 135.000 | 231.00 | -0.36 | -0.37 | 0.90 | 1692411.09 | 14569639.26 | 40°07'03.637"N | 104°48'50.471"W | 0.22 | |
| 326.00 | 0.350 | 135.000 | 326.00 | -0.77 | -0.78 | 1.31 | 1692411.50 | 14569638.85 | 40°07'03.633"N | 104°48'50.466"W | 0.00 | |
| 422.00 | 0.600 | 127.180 | 421.99 | -1.28 | -1.29 | 1.92 | 1692412.11 | 14569638.34 | 40°07'03.628"N | 104°48'50.458"W | 0.27 | |
| 517.00 | 2.070 | 163.040 | 516.96 | -3.22 | -3.23 | 2.82 | 1692413.01 | 14569636.40 | 40°07'03.609"N | 104°48'50.447"W | 1.71 | |
| 612.00 | 4.130 | 168.310 | 611.82 | -8.21 | -8.22 | 4.01 | 1692414.21 | 14569631.41 | 40°07'03.560"N | 104°48'50.431"W | 2.19 | |
| 707.00 | 6.590 | 172.920 | 706.40 | -16.96 | -16.98 | 5.38 | 1692415.60 | 14569622.66 | 40°07'03.473"N | 104°48'50.414"W | 2.63 | |
| 802.00 | 8.750 | 173.850 | 800.54 | -29.55 | -29.58 | 6.82 | 1692417.07 | 14569610.07 | 40°07'03.349"N | 104°48'50.395"W | 2.28 | |
| 898.00 | 10.680 | 167.700 | 895.16 | -45.50 | -45.53 | 9.50 | 1692419.78 | 14569594.13 | 40°07'03.191"N | 104°48'50.361"W | 2.28 | |
| 993.00 | 11.910 | 163.740 | 988.32 | -63.49 | -63.54 | 14.12 | 1692424.43 | 14569576.13 | 40°07'03.013"N | 104°48'50.301"W | 1.53 | |
| 1088.00 | 12.790 | 158.470 | 1081.13 | -82.66 | -82.74 | 20.72 | 1692431.07 | 14569556.96 | 40°07'02.823"N | 104°48'50.216"W | 1.50 | |
| 1183.00 | 14.190 | 148.980 | 1173.52 | -102.39 | -102.50 | 30.59 | 1692440.97 | 14569537.23 | 40°07'02.628"N | 104°48'50.089"W | 2.75 | |
| 1279.00 | 13.540 | 149.420 | 1266.72 | -122.11 | -122.26 | 42.37 | 1692452.79 | 14569517.50 | 40°07'02.433"N | 104°48'49.938"W | 0.69 | |
| 1373.00 | 14.020 | 156.800 | 1358.02 | -142.02 | -142.20 | 52.45 | 1692462.91 | 14569497.59 | 40°07'02.236"N | 104°48'49.808"W | 1.94 | |
| 1468.00 | 15.780 | 157.860 | 1449.82 | -164.53 | -164.74 | 61.85 | 1692472.36 | 14569475.07 | 40°07'02.013"N | 104°48'49.687"W | 1.87 | |
| 1562.00 | 17.890 | 158.030 | 1539.79 | -189.73 | -189.97 | 72.07 | 1692482.63 | 14569449.87 | 40°07'01.764"N | 104°48'49.555"W | 2.25 | |
| 1658.00 | 18.980 | 154.080 | 1630.86 | -217.40 | -217.69 | 84.41 | 1692495.02 | 14569422.19 | 40°07'01.490"N | 104°48'49.396"W | 1.73 | |
| 1753.00 | 19.160 | 149.860 | 1720.65 | -244.73 | -245.07 | 99.00 | 1692509.65 | 14569394.86 | 40°07'01.219"N | 104°48'49.209"W | 1.46 | |
| 1841.00 | 16.660 | 146.430 | 1804.39 | -267.68 | -268.07 | 113.23 | 1692523.93 | 14569371.89 | 40°07'00.992"N | 104°48'49.026"W | 3.08 | LAST SURFACE MWD+IFR1 SURVEY |
| 1966.00 | 17.680 | 146.900 | 1923.81 | -298.45 | -298.90 | 133.50 | 1692544.26 | 14569341.11 | 40°07'00.687"N | 104°48'48.765"W | 0.82 | FIRST BHGE MWD+IFR1+MSA SURVEY |
| 2056.00 | 16.510 | 147.950 | 2009.84 | -320.69 | -321.19 | 147.75 | 1692558.55 | 14569318.86 | 40°07'00.467"N | 104°48'48.581"W | 1.34 | |
| 2145.00 | 14.020 | 151.380 | 2095.69 | -340.83 | -341.38 | 159.63 | 1692570.46 | 14569298.71 | 40°07'00.267"N | 104°48'48.428"W | 2.97 | |
| 2235.00 | 13.020 | 157.310 | 2183.20 | -359.72 | -360.30 | 168.76 | 1692579.63 | 14569279.81 | 40°07'00.080"N | 104°48'48.311"W | 1.90 | |
| 2324.00 | 11.480 | 163.250 | 2270.17 | -377.43 | -378.04 | 175.18 | 1692586.09 | 14569262.10 | 40°06'59.905"N | 104°48'48.228"W | 2.23 | |
| 2413.00 | 10.590 | 171.090 | 2357.53 | -393.98 | -394.60 | 179.00 | 1692589.94 | 14569245.55 | 40°06'59.742"N | 104°48'48.179"W | 1.96 | |
| 2503.00 | 8.770 | 179.120 | 2446.25 | -409.01 | -409.63 | 180.39 | 1692591.36 | 14569230.53 | 40°06'59.593"N | 104°48'48.161"W | 2.51 | |
| 2592.00 | 7.540 | 189.330 | 2534.36 | -421.56 | -422.18 | 179.54 | 1692590.54 | 14569217.99 | 40°06'59.469"N | 104°48'48.172"W | 2.13 | |
| 2681.00 | 7.020 | 202.950 | 2622.64 | -432.34 | -432.95 | 176.48 | 1692587.50 | 14569207.21 | 40°06'59.363"N | 104°48'48.211"W | 2.02 | |

| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|--------------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP (WA) | Slot | SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19) |
| Area | COLORADO | Well | CASTLE PINES 19-13HZ |
| Field | WELD COUNTY (UTM/TRUE NORTH) | Wellbore | CASTLE PINES 19-13HZ AWB |
| Facility | SEC.19-T2N-R66W | | |

WELLPATH DATA (198 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 |
|---------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|----------------|-----------------|---------------|----------|
| 2771.00 | 6.750 | 215.730 | 2712.00 | -441.72 | -442.31 | 171.24 | 1692582.28 | 14569197.85 | 40°06'59.270"N | 104°48'48.279"W | 1.72 | |
| 2860.00 | 5.630 | 223.540 | 2800.48 | -449.15 | -449.72 | 165.18 | 1692576.24 | 14569190.43 | 40°06'59.197"N | 104°48'48.357"W | 1.57 | |
| 2949.00 | 3.070 | 221.240 | 2889.22 | -454.12 | -454.68 | 160.60 | 1692571.67 | 14569185.46 | 40°06'59.148"N | 104°48'48.416"W | 2.88 | |
| 3038.00 | 1.200 | 233.030 | 2978.15 | -456.48 | -457.03 | 158.29 | 1692569.36 | 14569183.11 | 40°06'59.125"N | 104°48'48.446"W | 2.15 | |
| 3128.00 | 0.130 | 286.580 | 3068.15 | -457.02 | -457.57 | 157.43 | 1692568.51 | 14569182.57 | 40°06'59.119"N | 104°48'48.457"W | 1.25 | |
| 3217.00 | 0.070 | 144.020 | 3157.15 | -457.04 | -457.58 | 157.37 | 1692568.45 | 14569182.55 | 40°06'59.119"N | 104°48'48.457"W | 0.21 | |
| 3307.00 | 0.100 | 201.490 | 3247.15 | -457.16 | -457.70 | 157.37 | 1692568.45 | 14569182.43 | 40°06'59.118"N | 104°48'48.457"W | 0.10 | |
| 3396.00 | 0.070 | 289.350 | 3336.15 | -457.21 | -457.75 | 157.29 | 1692568.37 | 14569182.38 | 40°06'59.117"N | 104°48'48.458"W | 0.13 | |
| 3485.00 | 0.070 | 349.230 | 3425.15 | -457.14 | -457.68 | 157.23 | 1692568.31 | 14569182.45 | 40°06'59.118"N | 104°48'48.459"W | 0.08 | |
| 3575.00 | 0.070 | 267.830 | 3515.14 | -457.09 | -457.63 | 157.17 | 1692568.25 | 14569182.50 | 40°06'59.119"N | 104°48'48.460"W | 0.10 | |
| 3664.00 | 0.060 | 232.970 | 3604.14 | -457.12 | -457.66 | 157.08 | 1692568.15 | 14569182.47 | 40°06'59.118"N | 104°48'48.461"W | 0.05 | |
| 3754.00 | 0.090 | 195.810 | 3694.14 | -457.22 | -457.76 | 157.02 | 1692568.10 | 14569182.38 | 40°06'59.117"N | 104°48'48.462"W | 0.06 | |
| 3843.00 | 0.070 | 96.930 | 3783.14 | -457.29 | -457.83 | 157.05 | 1692568.13 | 14569182.30 | 40°06'59.117"N | 104°48'48.461"W | 0.14 | |
| 3933.00 | 0.070 | 270.190 | 3873.14 | -457.30 | -457.84 | 157.05 | 1692568.13 | 14569182.30 | 40°06'59.117"N | 104°48'48.461"W | 0.16 | |
| 4022.00 | 0.110 | 8.960 | 3962.14 | -457.21 | -457.75 | 157.01 | 1692568.09 | 14569182.38 | 40°06'59.117"N | 104°48'48.462"W | 0.16 | |
| 4111.00 | 0.040 | 141.710 | 4051.14 | -457.15 | -457.69 | 157.04 | 1692568.12 | 14569182.44 | 40°06'59.118"N | 104°48'48.462"W | 0.16 | |
| 4200.00 | 0.040 | 288.000 | 4140.14 | -457.17 | -457.71 | 157.03 | 1692568.11 | 14569182.43 | 40°06'59.118"N | 104°48'48.462"W | 0.09 | |
| 4290.00 | 0.040 | 340.590 | 4230.14 | -457.13 | -457.67 | 156.99 | 1692568.07 | 14569182.46 | 40°06'59.118"N | 104°48'48.462"W | 0.04 | |
| 4379.00 | 0.090 | 148.440 | 4319.14 | -457.16 | -457.70 | 157.02 | 1692568.10 | 14569182.43 | 40°06'59.118"N | 104°48'48.462"W | 0.15 | |
| 4468.00 | 0.110 | 230.030 | 4408.14 | -457.27 | -457.81 | 156.99 | 1692568.07 | 14569182.32 | 40°06'59.117"N | 104°48'48.462"W | 0.15 | |
| 4558.00 | 0.090 | 233.880 | 4498.14 | -457.37 | -457.91 | 156.87 | 1692567.95 | 14569182.22 | 40°06'59.116"N | 104°48'48.464"W | 0.02 | |
| 4647.00 | 0.030 | 128.610 | 4587.14 | -457.43 | -457.96 | 156.83 | 1692567.91 | 14569182.17 | 40°06'59.115"N | 104°48'48.464"W | 0.11 | |
| 4737.00 | 0.100 | 254.710 | 4677.14 | -457.46 | -458.00 | 156.77 | 1692567.85 | 14569182.13 | 40°06'59.115"N | 104°48'48.465"W | 0.13 | |
| 4826.00 | 0.030 | 151.180 | 4766.14 | -457.50 | -458.04 | 156.71 | 1692567.79 | 14569182.09 | 40°06'59.115"N | 104°48'48.466"W | 0.12 | |
| 4915.00 | 0.170 | 339.370 | 4855.14 | -457.40 | -457.94 | 156.67 | 1692567.75 | 14569182.19 | 40°06'59.116"N | 104°48'48.466"W | 0.22 | |
| 5005.00 | 0.130 | 277.900 | 4945.14 | -457.26 | -457.80 | 156.53 | 1692567.60 | 14569182.33 | 40°06'59.117"N | 104°48'48.468"W | 0.17 | |
| 5094.00 | 0.100 | 149.390 | 5034.14 | -457.31 | -457.85 | 156.46 | 1692567.54 | 14569182.28 | 40°06'59.116"N | 104°48'48.469"W | 0.23 | |
| 5183.00 | 0.070 | 357.080 | 5123.14 | -457.33 | -457.86 | 156.50 | 1692567.58 | 14569182.27 | 40°06'59.116"N | 104°48'48.469"W | 0.19 | |
| 5273.00 | 0.030 | 52.640 | 5213.14 | -457.26 | -457.79 | 156.52 | 1692567.60 | 14569182.34 | 40°06'59.117"N | 104°48'48.468"W | 0.07 | |
| 5362.00 | 0.070 | 157.780 | 5302.14 | -457.29 | -457.83 | 156.56 | 1692567.64 | 14569182.30 | 40°06'59.117"N | 104°48'48.468"W | 0.09 | |

| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|--------------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP (WA) | Slot | SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19) |
| Area | COLORADO | Well | CASTLE PINES 19-13HZ |
| Field | WELD COUNTY (UTM/TRUE NORTH) | Wellbore | CASTLE PINES 19-13HZ AWB |
| Facility | SEC.19-T2N-R66W | | |

| WELLPATH DATA (198 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 |
| 5451.00 | 0.070 | 339.330 | 5391.14 | -457.29 | -457.83 | 156.56 | 1692567.64 | 14569182.30 | 40°06'59.117"N | 104°48'48.468"W | 0.16 | |
| 5540.00 | 0.120 | 332.150 | 5480.14 | -457.16 | -457.70 | 156.50 | 1692567.57 | 14569182.43 | 40°06'59.118"N | 104°48'48.469"W | 0.06 | |
| 5629.00 | 0.100 | 323.130 | 5569.14 | -457.02 | -457.55 | 156.41 | 1692567.48 | 14569182.58 | 40°06'59.119"N | 104°48'48.470"W | 0.03 | |
| 5718.00 | 0.140 | 54.490 | 5658.14 | -456.89 | -457.43 | 156.45 | 1692567.53 | 14569182.70 | 40°06'59.121"N | 104°48'48.469"W | 0.20 | |
| 5807.00 | 0.070 | 236.080 | 5747.14 | -456.86 | -457.39 | 156.49 | 1692567.57 | 14569182.74 | 40°06'59.121"N | 104°48'48.469"W | 0.24 | |
| 5897.00 | 0.070 | 332.530 | 5837.14 | -456.84 | -457.38 | 156.42 | 1692567.50 | 14569182.75 | 40°06'59.121"N | 104°48'48.470"W | 0.12 | |
| 5986.00 | 0.040 | 286.100 | 5926.14 | -456.78 | -457.32 | 156.36 | 1692567.44 | 14569182.81 | 40°06'59.122"N | 104°48'48.470"W | 0.06 | |
| 6076.00 | 0.060 | 160.680 | 6016.14 | -456.82 | -457.36 | 156.35 | 1692567.43 | 14569182.77 | 40°06'59.121"N | 104°48'48.471"W | 0.10 | |
| 6165.00 | 0.030 | 157.960 | 6105.14 | -456.88 | -457.42 | 156.37 | 1692567.45 | 14569182.71 | 40°06'59.121"N | 104°48'48.470"W | 0.03 | |
| 6254.00 | 0.040 | 212.590 | 6194.14 | -456.93 | -457.47 | 156.37 | 1692567.44 | 14569182.66 | 40°06'59.120"N | 104°48'48.470"W | 0.04 | |
| 6344.00 | 0.030 | 339.540 | 6284.14 | -456.94 | -457.47 | 156.34 | 1692567.42 | 14569182.66 | 40°06'59.120"N | 104°48'48.471"W | 0.07 | |
| 6433.00 | 0.070 | 10.150 | 6373.14 | -456.86 | -457.40 | 156.34 | 1692567.42 | 14569182.73 | 40°06'59.121"N | 104°48'48.471"W | 0.05 | |
| 6522.00 | 0.070 | 219.820 | 6462.14 | -456.85 | -457.39 | 156.32 | 1692567.40 | 14569182.74 | 40°06'59.121"N | 104°48'48.471"W | 0.15 | |
| 6611.00 | 0.000 | 8.180 | 6551.14 | -456.89 | -457.43 | 156.28 | 1692567.36 | 14569182.70 | 40°06'59.121"N | 104°48'48.471"W | 0.08 | |
| 6701.00 | 0.130 | 261.510 | 6641.14 | -456.91 | -457.44 | 156.18 | 1692567.26 | 14569182.69 | 40°06'59.120"N | 104°48'48.473"W | 0.14 | |
| 6755.00† | 1.680 | 351.076 | 6695.14 | -456.13 | -456.67 | 156.00 | 1692567.08 | 14569183.46 | 40°06'59.128"N | 104°48'48.475"W | 3.12 | KOP |
| 6790.00 | 2.770 | 352.820 | 6730.11 | -454.79 | -455.32 | 155.81 | 1692566.89 | 14569184.80 | 40°06'59.141"N | 104°48'48.477"W | 3.12 | |
| 6879.00 | 10.450 | 359.340 | 6818.45 | -444.57 | -445.10 | 155.45 | 1692566.50 | 14569195.02 | 40°06'59.242"N | 104°48'48.482"W | 8.66 | |
| 6968.00 | 18.560 | 359.580 | 6904.54 | -422.30 | -422.83 | 155.25 | 1692566.26 | 14569217.28 | 40°06'59.463"N | 104°48'48.485"W | 9.11 | |
| 7057.00 | 27.990 | 356.970 | 6986.21 | -387.20 | -387.73 | 154.04 | 1692564.98 | 14569252.36 | 40°06'59.809"N | 104°48'48.500"W | 10.66 | |
| 7147.00 | 36.410 | 356.220 | 7062.30 | -339.39 | -339.90 | 151.16 | 1692562.00 | 14569300.17 | 40°07'00.282"N | 104°48'48.537"W | 9.37 | |
| 7236.00 | 44.000 | 357.690 | 7130.22 | -282.07 | -282.58 | 148.17 | 1692558.89 | 14569357.47 | 40°07'00.849"N | 104°48'48.576"W | 8.59 | |
| 7325.00 | 52.490 | 359.640 | 7189.44 | -215.76 | -216.27 | 146.70 | 1692557.28 | 14569423.75 | 40°07'01.504"N | 104°48'48.595"W | 9.68 | |
| 7414.00 | 59.480 | 0.850 | 7239.20 | -142.04 | -142.54 | 147.05 | 1692557.47 | 14569497.44 | 40°07'02.232"N | 104°48'48.590"W | 7.93 | |
| 7503.00 | 65.960 | 1.260 | 7279.97 | -62.99 | -63.50 | 148.51 | 1692558.77 | 14569576.46 | 40°07'03.014"N | 104°48'48.571"W | 7.29 | |
| 7546.00† | 70.303 | 0.982 | 7295.98 | -23.10 | -23.61 | 149.29 | 1692559.46 | 14569616.33 | 40°07'03.408"N | 104°48'48.561"W | 10.12 | ENTER LANDBOX (459'FSL & 809'FEL,SEC.19) 40.1176132 -104.8134893 |
| 7592.00 | 74.950 | 0.700 | 7309.71 | 20.79 | 20.28 | 149.93 | 1692560.01 | 14569660.20 | 40°07'03.841"N | 104°48'48.553"W | 10.12 | |
| 7681.00 | 82.740 | 0.060 | 7326.92 | 108.04 | 107.52 | 150.50 | 1692560.40 | 14569747.42 | 40°07'04.704"N | 104°48'48.546"W | 8.78 | |
| 7771.00 | 90.550 | 359.770 | 7332.18 | 197.81 | 197.30 | 150.37 | 1692560.08 | 14569837.16 | 40°07'05.591"N | 104°48'48.547"W | 8.68 | |
| 7795.00† | 90.534 | 359.649 | 7331.96 | 221.81 | 221.30 | 150.25 | 1692559.91 | 14569861.14 | 40°07'05.828"N | 104°48'48.549"W | 0.51 | LANDING (704'FSL & 808'FEL,SEC.19) 40.1182855 -104.8134858 |

| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|--------------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP (WA) | Slot | SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19) |
| Area | COLORADO | Well | CASTLE PINES 19-13HZ |
| Field | WELD COUNTY (UTM/TRUE NORTH) | Wellbore | CASTLE PINES 19-13HZ AWB |
| Facility | SEC.19-T2N-R66W | | |

| WELLPATH DATA (198 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 |
| 7860.00 | 90.490 | 359.320 | 7331.37 | 286.80 | 286.29 | 149.66 | 1692559.19 | 14569926.11 | 40°07'06.470"N | 104°48'48.557"W | 0.51 | |
| 7949.00 | 90.710 | 359.430 | 7330.44 | 375.79 | 375.28 | 148.69 | 1692558.03 | 14570015.06 | 40°07'07.350"N | 104°48'48.569"W | 0.28 | |
| 8038.00 | 90.400 | 359.020 | 7329.58 | 464.77 | 464.27 | 147.49 | 1692556.64 | 14570104.01 | 40°07'08.229"N | 104°48'48.585"W | 0.58 | |
| 8128.00 | 90.370 | 358.600 | 7328.98 | 554.74 | 554.25 | 145.62 | 1692554.59 | 14570193.95 | 40°07'09.118"N | 104°48'48.609"W | 0.47 | |
| 8217.00 | 90.090 | 358.360 | 7328.62 | 643.70 | 643.22 | 143.26 | 1692552.04 | 14570282.88 | 40°07'09.997"N | 104°48'48.639"W | 0.41 | |
| 8306.00 | 90.430 | 357.840 | 7328.21 | 732.64 | 732.17 | 140.31 | 1692548.91 | 14570371.79 | 40°07'10.876"N | 104°48'48.677"W | 0.70 | |
| 8395.00 | 90.460 | 359.020 | 7327.52 | 821.60 | 821.13 | 137.87 | 1692546.28 | 14570460.71 | 40°07'11.755"N | 104°48'48.708"W | 1.33 | |
| 8484.00 | 90.520 | 0.180 | 7326.76 | 910.59 | 910.12 | 137.25 | 1692545.47 | 14570549.66 | 40°07'12.635"N | 104°48'48.716"W | 1.31 | |
| 8573.00 | 90.400 | 359.240 | 7326.05 | 999.58 | 999.12 | 136.80 | 1692544.84 | 14570638.62 | 40°07'13.514"N | 104°48'48.722"W | 1.06 | |
| 8663.00 | 90.400 | 359.380 | 7325.42 | 1089.57 | 1089.11 | 135.71 | 1692543.57 | 14570728.58 | 40°07'14.404"N | 104°48'48.736"W | 0.16 | |
| 8752.00 | 90.490 | 357.290 | 7324.73 | 1178.51 | 1178.06 | 133.13 | 1692540.80 | 14570817.49 | 40°07'15.283"N | 104°48'48.769"W | 2.35 | |
| 8841.00 | 90.460 | 358.910 | 7323.99 | 1267.45 | 1267.01 | 130.18 | 1692537.66 | 14570906.39 | 40°07'16.162"N | 104°48'48.807"W | 1.82 | |
| 8869.00† | 90.479 | 359.542 | 7323.76 | 1295.44 | 1295.00 | 129.80 | 1692537.22 | 14570934.38 | 40°07'16.438"N | 104°48'48.812"W | 2.26 | CROSS SETBACK HEEL (1778'FSL & 828'FEL, SEC.19) 40.1212329 -104.8135589 |
| 8930.00 | 90.520 | 0.920 | 7323.23 | 1356.44 | 1356.00 | 130.04 | 1692537.34 | 14570995.35 | 40°07'17.041"N | 104°48'48.809"W | 2.26 | |
| 9020.00 | 90.430 | 3.530 | 7322.48 | 1446.37 | 1445.92 | 133.54 | 1692540.65 | 14571085.24 | 40°07'17.930"N | 104°48'48.764"W | 2.90 | |
| 9109.00 | 90.490 | 5.400 | 7321.77 | 1535.12 | 1534.64 | 140.47 | 1692547.39 | 14571173.94 | 40°07'18.807"N | 104°48'48.675"W | 2.10 | |
| 9198.00 | 90.650 | 8.520 | 7320.88 | 1623.48 | 1622.97 | 151.25 | 1692557.98 | 14571262.26 | 40°07'19.679"N | 104°48'48.536"W | 3.51 | |
| 9287.00 | 90.340 | 8.170 | 7320.11 | 1711.58 | 1711.03 | 164.17 | 1692570.71 | 14571350.30 | 40°07'20.550"N | 104°48'48.370"W | 0.53 | |
| 9376.00 | 90.400 | 3.550 | 7319.54 | 1800.12 | 1799.54 | 173.25 | 1692579.60 | 14571438.80 | 40°07'21.424"N | 104°48'48.253"W | 5.19 | |
| 9466.00 | 90.400 | 0.500 | 7318.91 | 1890.06 | 1889.47 | 176.43 | 1692582.59 | 14571528.70 | 40°07'22.313"N | 104°48'48.212"W | 3.39 | |
| 9555.00 | 90.460 | 2.760 | 7318.24 | 1979.02 | 1978.42 | 178.96 | 1692584.94 | 14571617.62 | 40°07'23.192"N | 104°48'48.179"W | 2.54 | |
| 9645.00 | 90.520 | 4.620 | 7317.47 | 2068.85 | 2068.23 | 184.75 | 1692590.54 | 14571707.41 | 40°07'24.079"N | 104°48'48.105"W | 2.07 | |
| 9734.00 | 90.340 | 3.590 | 7316.80 | 2157.64 | 2157.00 | 191.12 | 1692596.72 | 14571796.15 | 40°07'24.957"N | 104°48'48.023"W | 1.17 | |
| 9823.00 | 90.460 | 2.520 | 7316.18 | 2246.52 | 2245.87 | 195.87 | 1692601.28 | 14571885.00 | 40°07'25.835"N | 104°48'47.962"W | 1.21 | |
| 9912.00 | 90.430 | 0.850 | 7315.49 | 2335.49 | 2334.82 | 198.48 | 1692603.71 | 14571973.92 | 40°07'26.714"N | 104°48'47.928"W | 1.88 | |
| 10002.00 | 90.400 | 357.480 | 7314.84 | 2425.46 | 2424.80 | 197.17 | 1692602.21 | 14572063.86 | 40°07'27.603"N | 104°48'47.945"W | 3.74 | |
| 10091.00 | 90.460 | 359.550 | 7314.17 | 2514.41 | 2513.76 | 194.87 | 1692599.72 | 14572152.78 | 40°07'28.482"N | 104°48'47.974"W | 2.33 | |
| 10180.00 | 90.460 | 3.450 | 7313.46 | 2603.37 | 2602.71 | 197.19 | 1692601.86 | 14572241.70 | 40°07'29.361"N | 104°48'47.944"W | 4.38 | |
| 10270.00 | 90.370 | 0.100 | 7312.81 | 2693.32 | 2692.65 | 199.98 | 1692604.46 | 14572331.61 | 40°07'30.250"N | 104°48'47.909"W | 3.72 | |
| 10359.00 | 90.370 | 358.410 | 7312.23 | 2782.30 | 2781.64 | 198.82 | 1692603.11 | 14572420.56 | 40°07'31.129"N | 104°48'47.923"W | 1.90 | |

| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|--------------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP (WA) | Slot | SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19) |
| Area | COLORADO | Well | CASTLE PINES 19-13HZ |
| Field | WELD COUNTY (UTM/TRUE NORTH) | Wellbore | CASTLE PINES 19-13HZ AWB |
| Facility | SEC.19-T2N-R66W | | |

WELLPATH DATA (198 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 |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------------|-----------------------|----------------|-----------------|------------------|----------|
| 10448.00 | 90.280 | 358.980 | 7311.73 | 2871.27 | 2870.62 | 196.80 | 1692600.90 | 14572509.49 | 40°07'32.009"N | 104°48'47.950"W | 0.65 | |
| 10538.00 | 90.430 | 359.480 | 7311.17 | 2961.26 | 2960.60 | 195.59 | 1692599.51 | 14572599.45 | 40°07'32.898"N | 104°48'47.965"W | 0.58 | |
| 10627.00 | 90.430 | 359.310 | 7310.50 | 3050.25 | 3049.60 | 194.65 | 1692598.38 | 14572688.40 | 40°07'33.777"N | 104°48'47.977"W | 0.19 | |
| 10717.00 | 90.430 | 358.760 | 7309.82 | 3140.22 | 3139.58 | 193.13 | 1692596.68 | 14572778.35 | 40°07'34.667"N | 104°48'47.997"W | 0.61 | |
| 10806.00 | 90.400 | 359.110 | 7309.18 | 3229.20 | 3228.56 | 191.48 | 1692594.84 | 14572867.29 | 40°07'35.546"N | 104°48'48.018"W | 0.39 | |
| 10895.00 | 90.490 | 359.980 | 7308.49 | 3318.19 | 3317.56 | 190.77 | 1692593.94 | 14572956.25 | 40°07'36.425"N | 104°48'48.027"W | 0.98 | |
| 10985.00 | 90.430 | 0.090 | 7307.77 | 3408.19 | 3407.55 | 190.83 | 1692593.81 | 14573046.21 | 40°07'37.315"N | 104°48'48.026"W | 0.14 | |
| 11074.00 | 90.490 | 0.980 | 7307.05 | 3497.18 | 3496.55 | 191.66 | 1692594.46 | 14573135.16 | 40°07'38.194"N | 104°48'48.016"W | 1.00 | |
| 11163.00 | 90.490 | 1.510 | 7306.29 | 3586.16 | 3585.52 | 193.59 | 1692596.20 | 14573224.11 | 40°07'39.074"N | 104°48'47.991"W | 0.60 | |
| 11253.00 | 90.370 | 0.920 | 7305.61 | 3676.15 | 3675.50 | 195.50 | 1692597.92 | 14573314.05 | 40°07'39.963"N | 104°48'47.966"W | 0.67 | |
| 11342.00 | 90.460 | 0.260 | 7304.97 | 3765.14 | 3764.49 | 196.42 | 1692598.65 | 14573403.01 | 40°07'40.842"N | 104°48'47.954"W | 0.75 | |
| 11432.00 | 90.490 | 0.200 | 7304.22 | 3855.14 | 3854.49 | 196.78 | 1692598.83 | 14573492.97 | 40°07'41.731"N | 104°48'47.950"W | 0.07 | |
| 11521.00 | 90.430 | 0.370 | 7303.51 | 3944.14 | 3943.48 | 197.22 | 1692599.08 | 14573581.93 | 40°07'42.611"N | 104°48'47.944"W | 0.20 | |
| 11611.00 | 90.370 | 0.200 | 7302.88 | 4034.13 | 4033.48 | 197.67 | 1692599.34 | 14573671.90 | 40°07'43.500"N | 104°48'47.938"W | 0.20 | |
| 11700.00 | 90.430 | 359.790 | 7302.26 | 4123.13 | 4122.48 | 197.66 | 1692599.15 | 14573760.86 | 40°07'44.380"N | 104°48'47.938"W | 0.47 | |
| 11790.00 | 90.460 | 359.310 | 7301.56 | 4213.12 | 4212.47 | 196.95 | 1692598.25 | 14573850.81 | 40°07'45.269"N | 104°48'47.947"W | 0.53 | |
| 11879.00 | 90.460 | 358.710 | 7300.85 | 4302.10 | 4301.46 | 195.42 | 1692596.53 | 14573939.76 | 40°07'46.148"N | 104°48'47.967"W | 0.67 | |
| 11969.00 | 90.430 | 358.310 | 7300.15 | 4392.06 | 4391.42 | 193.08 | 1692594.00 | 14574029.68 | 40°07'47.038"N | 104°48'47.997"W | 0.45 | |
| 12058.00 | 90.490 | 358.460 | 7299.43 | 4481.01 | 4480.38 | 190.57 | 1692591.31 | 14574118.61 | 40°07'47.917"N | 104°48'48.030"W | 0.18 | |
| 12148.00 | 90.520 | 357.650 | 7298.64 | 4570.94 | 4570.33 | 187.51 | 1692588.07 | 14574208.51 | 40°07'48.805"N | 104°48'48.069"W | 0.90 | |
| 12237.00 | 90.430 | 356.880 | 7297.90 | 4659.82 | 4659.22 | 183.27 | 1692583.64 | 14574297.36 | 40°07'49.684"N | 104°48'48.124"W | 0.87 | |
| 12327.00 | 90.460 | 357.540 | 7297.20 | 4749.70 | 4749.11 | 178.89 | 1692579.07 | 14574387.20 | 40°07'50.572"N | 104°48'48.180"W | 0.73 | |
| 12416.00 | 90.370 | 359.160 | 7296.56 | 4838.65 | 4838.07 | 176.32 | 1692576.32 | 14574476.12 | 40°07'51.451"N | 104°48'48.213"W | 1.82 | |
| 12506.00 | 90.430 | 359.800 | 7295.93 | 4928.64 | 4928.06 | 175.51 | 1692575.32 | 14574566.07 | 40°07'52.341"N | 104°48'48.223"W | 0.71 | |
| 12595.00 | 90.400 | 0.570 | 7295.29 | 5017.63 | 5017.06 | 175.79 | 1692575.42 | 14574655.04 | 40°07'53.220"N | 104°48'48.220"W | 0.87 | |
| 12685.00 | 90.520 | 0.940 | 7294.56 | 5107.63 | 5107.05 | 176.98 | 1692576.42 | 14574744.99 | 40°07'54.109"N | 104°48'48.204"W | 0.43 | |
| 12774.00 | 90.460 | 0.480 | 7293.80 | 5196.62 | 5196.04 | 178.08 | 1692577.33 | 14574833.95 | 40°07'54.989"N | 104°48'48.190"W | 0.52 | |
| 12864.00 | 90.490 | 1.210 | 7293.06 | 5286.61 | 5286.03 | 179.41 | 1692578.47 | 14574923.90 | 40°07'55.878"N | 104°48'48.173"W | 0.81 | |
| 12953.00 | 90.460 | 1.510 | 7292.32 | 5375.59 | 5375.00 | 181.52 | 1692580.40 | 14575012.84 | 40°07'56.757"N | 104°48'48.146"W | 0.34 | |
| 13043.00 | 90.490 | 1.390 | 7291.57 | 5465.56 | 5464.97 | 183.80 | 1692582.49 | 14575102.78 | 40°07'57.646"N | 104°48'48.117"W | 0.14 | |

| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|--------------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP (WA) | Slot | SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19) |
| Area | COLORADO | Well | CASTLE PINES 19-13HZ |
| Field | WELD COUNTY (UTM/TRUE NORTH) | Wellbore | CASTLE PINES 19-13HZ AWB |
| Facility | SEC.19-T2N-R66W | | |

WELLPATH DATA (198 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 |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------------|-----------------------|----------------|-----------------|------------------|----------|
| 13132.00 | 90.370 | 1.190 | 7290.90 | 5554.54 | 5553.94 | 185.80 | 1692584.30 | 14575191.72 | 40°07'58.526"N | 104°48'48.091"W | 0.26 | |
| 13222.00 | 90.430 | 1.080 | 7290.28 | 5644.53 | 5643.92 | 187.59 | 1692585.90 | 14575281.67 | 40°07'59.415"N | 104°48'48.068"W | 0.14 | |
| 13311.00 | 90.520 | 359.040 | 7289.54 | 5733.52 | 5732.91 | 187.68 | 1692585.80 | 14575370.63 | 40°08'00.294"N | 104°48'48.067"W | 2.29 | |
| 13401.00 | 90.430 | 359.900 | 7288.79 | 5823.51 | 5822.91 | 186.85 | 1692584.78 | 14575460.58 | 40°08'01.184"N | 104°48'48.077"W | 0.96 | |
| 13490.00 | 90.920 | 359.240 | 7287.74 | 5912.50 | 5911.90 | 186.18 | 1692583.93 | 14575549.53 | 40°08'02.063"N | 104°48'48.086"W | 0.92 | |
| 13579.00 | 90.920 | 359.440 | 7286.31 | 6001.48 | 6000.88 | 185.15 | 1692582.72 | 14575638.48 | 40°08'02.942"N | 104°48'48.099"W | 0.22 | |
| 13669.00 | 90.920 | 359.650 | 7284.87 | 6091.46 | 6090.86 | 184.44 | 1692581.82 | 14575728.43 | 40°08'03.832"N | 104°48'48.108"W | 0.23 | |
| 13758.00 | 90.800 | 359.790 | 7283.53 | 6180.45 | 6179.85 | 184.00 | 1692581.20 | 14575817.38 | 40°08'04.711"N | 104°48'48.114"W | 0.21 | |
| 13848.00 | 90.830 | 359.620 | 7282.25 | 6270.43 | 6269.84 | 183.54 | 1692580.54 | 14575907.33 | 40°08'05.600"N | 104°48'48.120"W | 0.19 | |
| 13937.00 | 90.950 | 359.530 | 7280.87 | 6359.42 | 6358.83 | 182.88 | 1692579.70 | 14575996.28 | 40°08'06.480"N | 104°48'48.128"W | 0.17 | |
| 14026.00 | 90.980 | 359.650 | 7279.37 | 6448.40 | 6447.81 | 182.24 | 1692578.88 | 14576085.23 | 40°08'07.359"N | 104°48'48.137"W | 0.14 | |
| 14116.00 | 90.830 | 359.040 | 7277.95 | 6538.38 | 6537.80 | 181.22 | 1692577.66 | 14576175.17 | 40°08'08.248"N | 104°48'48.150"W | 0.70 | |
| 14205.00 | 91.080 | 358.900 | 7276.47 | 6627.35 | 6626.77 | 179.62 | 1692575.87 | 14576264.11 | 40°08'09.127"N | 104°48'48.170"W | 0.32 | |
| 14294.00 | 91.170 | 358.800 | 7274.72 | 6716.30 | 6715.74 | 177.83 | 1692573.90 | 14576353.03 | 40°08'10.007"N | 104°48'48.193"W | 0.15 | |
| 14384.00 | 91.080 | 358.860 | 7272.95 | 6806.26 | 6805.70 | 175.99 | 1692571.88 | 14576442.96 | 40°08'10.896"N | 104°48'48.217"W | 0.12 | |
| 14473.00 | 90.650 | 359.700 | 7271.61 | 6895.24 | 6894.68 | 174.87 | 1692570.57 | 14576531.90 | 40°08'11.775"N | 104°48'48.231"W | 1.06 | |
| 14563.00 | 91.230 | 0.570 | 7270.13 | 6985.23 | 6984.67 | 175.09 | 1692570.60 | 14576621.85 | 40°08'12.664"N | 104°48'48.229"W | 1.16 | |
| 14652.00 | 90.650 | 1.970 | 7268.67 | 7074.20 | 7073.63 | 177.06 | 1692572.38 | 14576710.78 | 40°08'13.543"N | 104°48'48.203"W | 1.70 | |
| 14742.00 | 90.490 | 1.480 | 7267.78 | 7164.16 | 7163.59 | 179.77 | 1692574.90 | 14576800.71 | 40°08'14.432"N | 104°48'48.168"W | 0.57 | |
| 14831.00 | 90.620 | 0.920 | 7266.91 | 7253.14 | 7252.56 | 181.63 | 1692576.58 | 14576889.65 | 40°08'15.312"N | 104°48'48.144"W | 0.65 | |
| 14921.00 | 90.430 | 0.890 | 7266.09 | 7343.13 | 7342.55 | 183.05 | 1692577.81 | 14576979.60 | 40°08'16.201"N | 104°48'48.126"W | 0.21 | |
| 15010.00 | 90.520 | 0.980 | 7265.35 | 7432.12 | 7431.53 | 184.50 | 1692579.08 | 14577068.56 | 40°08'17.080"N | 104°48'48.107"W | 0.14 | |
| 15100.00 | 90.680 | 358.560 | 7264.41 | 7522.10 | 7521.52 | 184.14 | 1692578.53 | 14577158.51 | 40°08'17.969"N | 104°48'48.112"W | 2.69 | |
| 15189.00 | 90.580 | 358.800 | 7263.43 | 7611.07 | 7610.49 | 182.09 | 1692576.29 | 14577247.44 | 40°08'18.849"N | 104°48'48.138"W | 0.29 | |
| 15279.00 | 90.550 | 359.710 | 7262.54 | 7701.05 | 7700.48 | 180.92 | 1692574.94 | 14577337.39 | 40°08'19.738"N | 104°48'48.153"W | 1.01 | |
| 15458.00 | 90.460 | 359.950 | 7260.97 | 7880.04 | 7879.47 | 180.39 | 1692574.03 | 14577516.31 | 40°08'21.507"N | 104°48'48.160"W | 0.14 | |
| 15547.00 | 90.650 | 359.650 | 7260.10 | 7969.03 | 7968.46 | 180.08 | 1692573.54 | 14577605.26 | 40°08'22.386"N | 104°48'48.164"W | 0.40 | |
| 15637.00 | 90.680 | 359.760 | 7259.06 | 8059.02 | 8058.46 | 179.62 | 1692572.88 | 14577695.22 | 40°08'23.275"N | 104°48'48.170"W | 0.13 | |
| 15726.00 | 90.520 | 0.220 | 7258.13 | 8148.02 | 8147.45 | 179.60 | 1692572.68 | 14577784.18 | 40°08'24.155"N | 104°48'48.170"W | 0.55 | |
| 15816.00 | 90.680 | 0.010 | 7257.18 | 8238.01 | 8237.45 | 179.78 | 1692572.67 | 14577874.14 | 40°08'25.044"N | 104°48'48.168"W | 0.29 | |

| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|--------------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP (WA) | Slot | SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19) |
| Area | COLORADO | Well | CASTLE PINES 19-13HZ |
| Field | WELD COUNTY (UTM/TRUE NORTH) | Wellbore | CASTLE PINES 19-13HZ AWB |
| Facility | SEC.19-T2N-R66W | | |

| WELLPATH DATA (198 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 |
| 15905.00 | 90.650 | 359.770 | 7256.15 | 8327.01 | 8326.44 | 179.61 | 1692572.32 | 14577963.10 | 40°08'25.924"N | 104°48'48.170"W | 0.27 | |
| 15995.00 | 90.770 | 0.300 | 7255.04 | 8417.00 | 8416.43 | 179.67 | 1692572.18 | 14578053.05 | 40°08'26.813"N | 104°48'48.170"W | 0.60 | |
| 16084.00 | 90.740 | 0.210 | 7253.86 | 8505.99 | 8505.42 | 180.06 | 1692572.39 | 14578142.01 | 40°08'27.692"N | 104°48'48.164"W | 0.11 | |
| 16173.00 | 90.620 | 0.500 | 7252.81 | 8594.98 | 8594.42 | 180.62 | 1692572.76 | 14578230.97 | 40°08'28.572"N | 104°48'48.157"W | 0.35 | |
| 16263.00 | 90.400 | 359.900 | 7252.01 | 8684.98 | 8684.41 | 180.93 | 1692572.89 | 14578320.93 | 40°08'29.461"N | 104°48'48.153"W | 0.71 | |
| 16352.00 | 90.550 | 0.750 | 7251.27 | 8773.98 | 8773.41 | 181.43 | 1692573.20 | 14578409.89 | 40°08'30.341"N | 104°48'48.147"W | 0.97 | |
| 16442.00 | 90.890 | 1.200 | 7250.14 | 8863.96 | 8863.39 | 182.97 | 1692574.55 | 14578499.83 | 40°08'31.230"N | 104°48'48.127"W | 0.63 | |
| 16532.00 | 90.830 | 1.240 | 7248.79 | 8953.94 | 8953.36 | 184.88 | 1692576.27 | 14578589.77 | 40°08'32.119"N | 104°48'48.102"W | 0.08 | |
| 16621.00 | 90.710 | 1.330 | 7247.59 | 9042.91 | 9042.32 | 186.88 | 1692578.08 | 14578678.71 | 40°08'32.998"N | 104°48'48.077"W | 0.17 | |
| 16711.00 | 90.740 | 2.000 | 7246.45 | 9132.87 | 9132.28 | 189.49 | 1692580.51 | 14578768.63 | 40°08'33.887"N | 104°48'48.043"W | 0.75 | |
| 16800.00 | 90.520 | 4.430 | 7245.47 | 9221.74 | 9221.13 | 194.48 | 1692585.31 | 14578857.45 | 40°08'34.765"N | 104°48'47.979"W | 2.74 | |
| 16890.00 | 90.340 | 3.470 | 7244.80 | 9311.54 | 9310.91 | 200.68 | 1692591.32 | 14578947.21 | 40°08'35.652"N | 104°48'47.899"W | 1.09 | |
| 17069.00 | 90.550 | 0.480 | 7243.41 | 9490.43 | 9489.78 | 206.85 | 1692597.11 | 14579126.02 | 40°08'37.420"N | 104°48'47.819"W | 1.67 | |
| 17169.00† | 90.623 | 359.854 | 7242.38 | 9590.42 | 9589.77 | 207.14 | 1692597.19 | 14579225.98 | 40°08'38.408"N | 104°48'47.816"W | 0.63 | CROSS SETBACK TOE (460'FNL & 762'FEL,SEC.18) 40.1440022 -104.8132821 |
| 17248.00 | 90.680 | 359.360 | 7241.49 | 9669.41 | 9668.76 | 206.60 | 1692596.49 | 14579304.94 | 40°08'39.189"N | 104°48'47.823"W | 0.63 | |
| 17338.00 | 90.180 | 359.860 | 7240.81 | 9759.41 | 9758.76 | 205.99 | 1692595.69 | 14579394.90 | 40°08'40.078"N | 104°48'47.830"W | 0.79 | |
| 17517.00 | 90.520 | 1.110 | 7239.72 | 9938.40 | 9937.75 | 207.50 | 1692596.83 | 14579573.81 | 40°08'41.847"N | 104°48'47.811"W | 0.72 | LAST BHGE MWD+IFR1+MSA SURVEY |
| 17578.00 | 90.520 | 1.110 | 7239.16 | 9999.39 | 9998.73 | 208.68 | 1692597.88 | 14579634.78 | 40°08'42.449"N | 104°48'47.796"W | 0.00 | PTB (51'FNL & 760'FEL,SEC.18) 40.1451248 -104.8132766 |

| HOLE & CASING SECTIONS - Ref Wellbore: CASTLE PINES 19-13HZ AWP Ref Wellpath: CASTLE PINES 19-13HZ 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 | 1878.00 | 1852.00 | 26.00 | 1839.80 | 0.00 | 0.00 | -277.00 | 119.13 |

| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|--------------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP (WA) | Slot | SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19) |
| Area | COLORADO | Well | CASTLE PINES 19-13HZ |
| Field | WELD COUNTY (UTM/TRUE NORTH) | Wellbore | CASTLE PINES 19-13HZ AWB |
| Facility | SEC.19-T2N-R66W | | |

| TARGETS | | | | | | | | |
|---|----------|------------|-----------|-------------------|--------------------|----------------|-----------------|---------|
| Name | TVD [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude | Longitude | Shape |
| SEC.18-T2N-R66W | 2.00 | 1.42 | -179.85 | 1692230.40 | 14569640.66 | 40°07'03.655"N | 104°48'52.798"W | polygon |
| SEC.19-T2N-R66W | 2.00 | 1.42 | -179.85 | 1692230.40 | 14569640.66 | 40°07'03.655"N | 104°48'52.798"W | polygon |
| CASTLE PINES 19-13HZ BHL REV-1(50'FNL & 786'FEL,SEC.18) | 7256.00 | 9999.88 | 182.85 | 1692572.05 | 14579635.87 | 40°08'42.461"N | 104°48'48.128"W | point |
| CASTLE PINES 19-13HZ HEEL REV-1(771'FSL & 809'FEL,SEC.19) | 7334.00 | 287.04 | 149.36 | 1692558.89 | 14569926.86 | 40°07'06.478"N | 104°48'48.560"W | point |
| CASTLE PINES 19-13HZ HEEL REV-2(671'FSL & 809'FEL,SEC.19) | 7334.00 | 187.04 | 149.36 | 1692559.10 | 14569826.90 | 40°07'05.489"N | 104°48'48.560"W | point |
| CASTLE PINES 19-13HZ LANDBOX | 7334.00 | 0.00 | 0.00 | 1692410.19 | 14569639.62 | 40°07'03.641"N | 104°48'50.483"W | polygon |
| CASTLE PINES 19-13HZ RADIUS 1 | 7334.00 | 0.00 | 0.00 | 1692410.19 | 14569639.62 | 40°07'03.641"N | 104°48'50.483"W | polygon |
| CASTLE PINES 19-13HZ RADIUS 2 | 7334.00 | 0.00 | 0.00 | 1692410.19 | 14569639.62 | 40°07'03.641"N | 104°48'50.483"W | polygon |

| WELLPATH COMPOSITION - Ref Wellbore: CASTLE PINES 19-13HZ AWB | | | | Ref Wellpath: CASTLE PINES 19-13HZ AWP | |
|---|-------------|--|--|--|--------------------------|
| Start MD [ft] | End MD [ft] | Positional Uncertainty Model | Log Name/Comment | | Wellbore |
| 26.00 | 1841.00 | Custom APC ISCWSA REV 2 MWD+IFR1 (approximation) | Custom APC ISCWSA Rev-2 MWD+IFR1 <136 - 1841> | | CASTLE PINES 19-13HZ AWB |
| 1841.00 | 17517.00 | Custom APC ISCWSA REV 2 MWD+IFR1+MSA (approximation) | BHGE Custom APC ISCWSA Rev-2 MWD+IFR1+MSA <1966 - 17517> | | CASTLE PINES 19-13HZ AWB |
| 17517.00 | 17578.00 | Blind Drilling (std) | Projection to bit | | CASTLE PINES 19-13HZ AWB |

| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|--------------------------------------|----------|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP (WA) | Slot | SLOT#13 CASTLE PINES 19-13HZ(483'FSL & 958'FEL,SEC.19) |
| Area | COLORADO | Well | CASTLE PINES 19-13HZ |
| Field | WELD COUNTY (UTM/TRUE NORTH) | Wellbore | CASTLE PINES 19-13HZ AWB |
| Facility | SEC.19-T2N-R66W | | |

| WELLPATH COMMENTS | | | | |
|-------------------|-----------------|-------------|----------|--|
| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Comment |
| 136.00 | 0.400 | 102.920 | 136.00 | FIRST SURFACE MWD+IFR1 SURVEY |
| 1841.00 | 16.660 | 146.430 | 1804.39 | LAST SURFACE MWD+IFR1 SURVEY |
| 1966.00 | 17.680 | 146.900 | 1923.81 | FIRST BHGE MWD+IFR1+MSA SURVEY |
| 6755.00 | 1.680 | 351.076 | 6695.14 | KOP |
| 7546.00 | 70.303 | 0.982 | 7295.98 | ENTER LANDBOX (459'FSL & 809'FEL,SEC.19) 40.1176132 -104.8134893 |
| 7795.00 | 90.534 | 359.649 | 7331.96 | LANDING (704'FSL & 808'FEL,SEC.19) 40.1182855 -104.8134858 |
| 8869.00 | 90.479 | 359.542 | 7323.76 | CROSS SETBACK HEEL (1778'FSL & 828'FEL,SEC.19) 40.1212329 -104.8135589 |
| 17169.00 | 90.623 | 359.854 | 7242.38 | CROSS SETBACK TOE (460'FNL & 762'FEL,SEC.18) 40.1440022 -104.8132821 |
| 17517.00 | 90.520 | 1.110 | 7239.72 | LAST BHGE MWD+IFR1+MSA SURVEY |
| 17578.00 | 90.520 | 1.110 | 7239.16 | PTB (51'FNL & 760'FEL,SEC.18) 40.1451248 -104.8132766 |