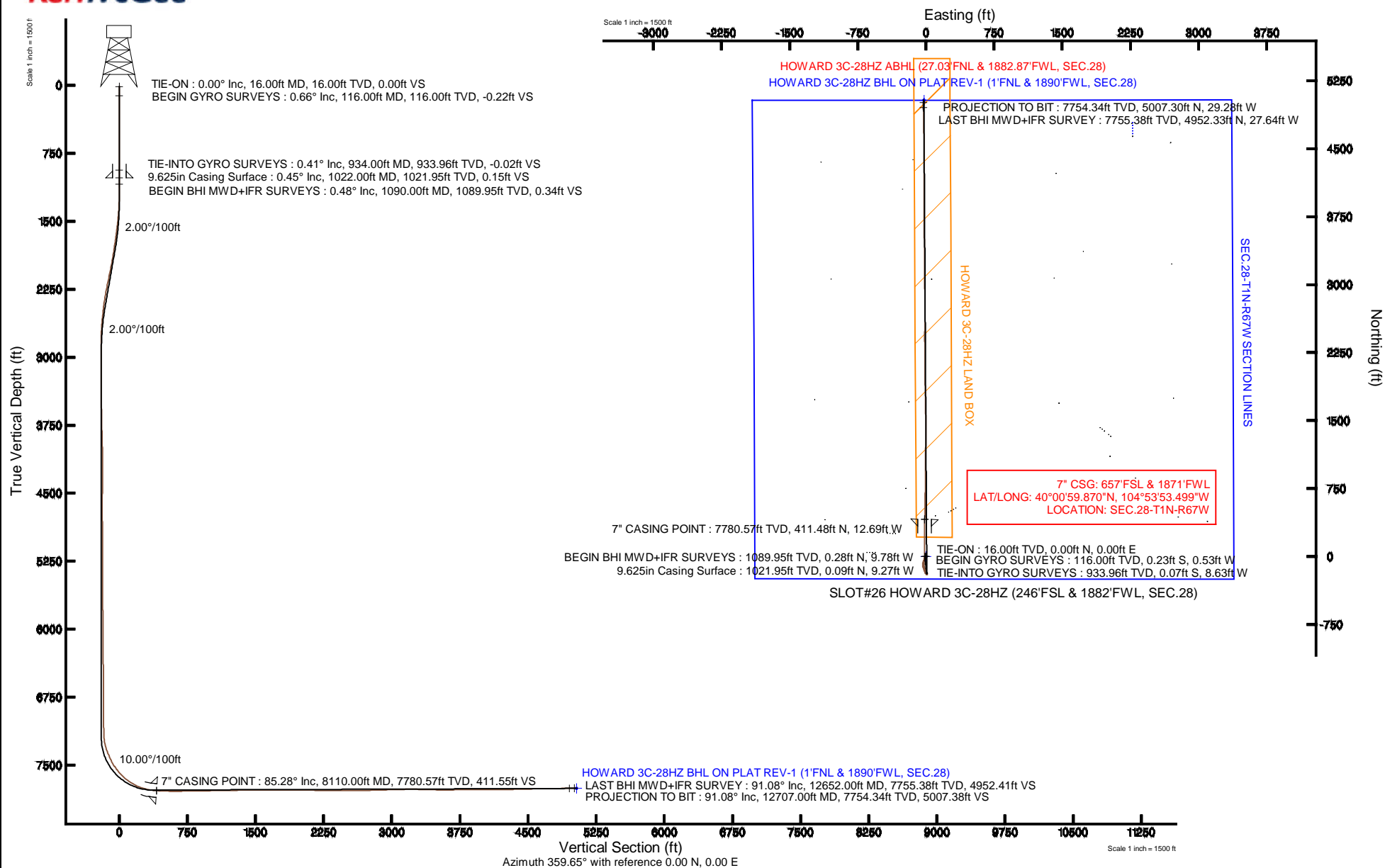


| | | | |
|-----------|--------------------------|-----------|---|
| Location: | COLORADO | Slot: | SLOT#26 HOWARD 3C-28HZ (246'FSL & 1882'FWL, SEC.28) |
| Field: | WELD COUNTY (KERR MCGEE) | Well: | HOWARD 3C-28HZ |
| Facility: | SEC.28-T1N-R67W | Wellbore: | HOWARD 3C-28HZ PWB |

| Plot reference wellpath is HOWARD 3C-28HZ (REV-A.0) PWP | |
|--|--|
| True vertical depths are referenced to XTREME 24 (RKB) | Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet |
| Measured depths are referenced to XTREME 24 (RKB) | North Reference: True north |
| XTREME 24 (RKB) to Mean Sea Level: 5036 feet | Scale: True distance |
| Mean Sea Level to Mud line (At Slot: SLOTH26 HOWARD 3C-28HZ (246 FSL & 1882 FWL, SEC.28): 0 feet | Depths are in feet |
| Coordinates are in feet referenced to Slot | Created by: robiala01 on 18/Oct/2013 |





Actual Wellpath Report

HOWARD 3C-28HZ AWP

Page 1 of 6



REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|---------------------------------|----------|---|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#26 HOWARD 3C-28HZ (246'FSL & 1882'FWL, SEC.28) |
| Area | COLORADO | Well | HOWARD 3C-28HZ |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 3C-28HZ AWB |
| Facility | SEC.28-T1N-R67W | | |

REPORT SETUP INFORMATION

| | | | |
|---------------------|---|----------------------|------------------------------------|
| Projection System | NAD83 / Lambert Colorado SP, Northern Zone (501), US feet | Software System | WellArchitect® 4.0.0 |
| North Reference | True | User | Robiale01 |
| Scale | 0.999965 | Report Generated | 18/Oct/2013 at 12:41 |
| Convergence at slot | n/a | Database/Source file | WA_ANADARKO/HOWARD_3C-28HZ_AWB.xml |

WELLPATH LOCATION

| | Local coordinates | | Grid coordinates | | Geographic coordinates | |
|-----------------------|-------------------|------------|------------------|-----------------|------------------------|-----------------|
| | North[ft] | East[ft] | Easting[US ft] | Northing[US ft] | Latitude | Longitude |
| Slot Location | 1411920.68 | 2715187.71 | 3168571.13 | 1249065.55 | 40°00'55.804"N | 104°53'53.336"W |
| Facility Reference Pt | | | 316923.76 | 121463.46 | 36°32'36.656"N | 114°37'52.006"W |
| Field Reference Pt | | | 3197771.84 | 1268891.29 | 40°04'09.600"N | 104°47'36.000"W |

WELLPATH DATUM

| | | | |
|--------------------------|-------------------|---|-------------------|
| Calculation method | Minimum curvature | XTREME 24 (RKB) to Facility Vertical Datum | 5036.00ft |
| Horizontal Reference Pt | Slot | XTREME 24 (RKB) to Mean Sea Level | 5036.00ft |
| Vertical Reference Pt | XTREME 24 (RKB) | XTREME 24 (RKB) to Mud Line at Slot (SLOT#26 HOWARD 3C-28HZ (246'FSL & 1882'FWL, SEC.28)) | 5036.00ft |
| MD Reference Pt | XTREME 24 (RKB) | Section Origin | N 0.00, E 0.00 ft |
| Field Vertical Reference | Mean Sea Level | Section Azimuth | 359.66° |

Actual Wellpath Report

HOWARD 3C-28HZ AWP

Page 2 of 6

REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|---------------------------------|----------|---|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#26 HOWARD 3C-28HZ (246'FSL & 1882'FWL, SEC.28) |
| Area | COLORADO | Well | HOWARD 3C-28HZ |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 3C-28HZ AWB |
| Facility | SEC.28-T1N-R67W | | |

WELLPATH DATA (113 stations) † = interpolated/extrapolated station

| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Latitude | Longitude | DLS [°/100ft] | Comments |
|---------|-----------------|-------------|----------|----------------|------------|-----------|----------------|-----------------|---------------|---------------------------|
| 0.00† | 0.000 | 246.990 | 0.00 | 0.00 | 0.00 | 0.00 | 40°00'55.804"N | 104°53'53.336"W | 0.00 | |
| 16.00 | 0.000 | 246.990 | 16.00 | 0.00 | 0.00 | 0.00 | 40°00'55.804"N | 104°53'53.336"W | 0.00 | TIE-ON |
| 116.00 | 0.660 | 246.990 | 116.00 | -0.22 | -0.23 | -0.53 | 40°00'55.802"N | 104°53'53.343"W | 0.66 | BEGIN GYRO SURVEYS |
| 216.00 | 0.480 | 280.660 | 215.99 | -0.36 | -0.37 | -1.47 | 40°00'55.800"N | 104°53'53.355"W | 0.37 | |
| 316.00 | 0.880 | 265.770 | 315.99 | -0.34 | -0.35 | -2.65 | 40°00'55.801"N | 104°53'53.370"W | 0.43 | |
| 416.00 | 0.470 | 289.100 | 415.98 | -0.25 | -0.27 | -3.80 | 40°00'55.801"N | 104°53'53.385"W | 0.49 | |
| 516.00 | 0.580 | 274.650 | 515.97 | -0.07 | -0.10 | -4.69 | 40°00'55.803"N | 104°53'53.396"W | 0.17 | |
| 616.00 | 0.490 | 261.570 | 615.97 | -0.09 | -0.12 | -5.62 | 40°00'55.803"N | 104°53'53.408"W | 0.15 | |
| 716.00 | 0.650 | 284.110 | 715.97 | -0.01 | -0.05 | -6.60 | 40°00'55.804"N | 104°53'53.421"W | 0.27 | |
| 816.00 | 0.500 | 243.180 | 815.96 | -0.06 | -0.10 | -7.53 | 40°00'55.803"N | 104°53'53.433"W | 0.43 | |
| 916.00 | 0.660 | 288.460 | 915.96 | -0.07 | -0.12 | -8.47 | 40°00'55.803"N | 104°53'53.445"W | 0.47 | |
| 934.00 | 0.410 | 281.020 | 933.96 | -0.02 | -0.07 | -8.63 | 40°00'55.803"N | 104°53'53.447"W | 1.44 | TIE-INTO GYRO SURVEYS |
| 1090.00 | 0.480 | 292.360 | 1089.95 | 0.34 | 0.28 | -9.78 | 40°00'55.807"N | 104°53'53.462"W | 0.07 | BEGIN BHI MWD+IFR SURVEYS |
| 1184.00 | 0.460 | 305.840 | 1183.95 | 0.71 | 0.65 | -10.45 | 40°00'55.810"N | 104°53'53.470"W | 0.12 | |
| 1278.00 | 1.630 | 149.790 | 1277.94 | -0.22 | -0.28 | -10.09 | 40°00'55.801"N | 104°53'53.466"W | 2.19 | |
| 1373.00 | 3.600 | 177.090 | 1372.84 | -4.37 | -4.43 | -9.26 | 40°00'55.760"N | 104°53'53.455"W | 2.40 | |
| 1466.00 | 5.780 | 186.540 | 1465.52 | -11.94 | -12.00 | -9.64 | 40°00'55.685"N | 104°53'53.460"W | 2.48 | |
| 1561.00 | 7.320 | 193.910 | 1559.90 | -22.56 | -22.63 | -11.64 | 40°00'55.580"N | 104°53'53.486"W | 1.84 | |
| 1655.00 | 8.410 | 209.700 | 1653.03 | -34.31 | -34.41 | -16.49 | 40°00'55.464"N | 104°53'53.548"W | 2.56 | |
| 1749.00 | 9.400 | 212.150 | 1745.89 | -46.74 | -46.88 | -23.98 | 40°00'55.341"N | 104°53'53.644"W | 1.13 | |
| 1843.00 | 9.050 | 196.540 | 1838.69 | -60.29 | -60.47 | -30.17 | 40°00'55.206"N | 104°53'53.724"W | 2.68 | |
| 1937.00 | 10.580 | 188.350 | 1931.32 | -75.90 | -76.10 | -33.53 | 40°00'55.052"N | 104°53'53.767"W | 2.20 | |
| 2032.00 | 11.270 | 175.410 | 2024.61 | -93.78 | -93.98 | -34.05 | 40°00'54.875"N | 104°53'53.774"W | 2.68 | |
| 2123.00 | 12.430 | 166.280 | 2113.67 | -112.18 | -112.36 | -31.02 | 40°00'54.694"N | 104°53'53.735"W | 2.42 | |
| 2215.00 | 11.550 | 161.620 | 2203.67 | -130.57 | -130.72 | -25.76 | 40°00'54.512"N | 104°53'53.667"W | 1.42 | |
| 2306.00 | 11.050 | 160.380 | 2292.90 | -147.46 | -147.58 | -19.96 | 40°00'54.346"N | 104°53'53.593"W | 0.61 | |
| 2397.00 | 9.570 | 155.920 | 2382.43 | -162.62 | -162.70 | -13.95 | 40°00'54.196"N | 104°53'53.515"W | 1.85 | |
| 2488.00 | 7.530 | 149.340 | 2472.42 | -174.69 | -174.74 | -7.82 | 40°00'54.077"N | 104°53'53.436"W | 2.48 | |
| 2579.00 | 6.690 | 139.140 | 2562.72 | -183.87 | -183.88 | -1.31 | 40°00'53.987"N | 104°53'53.353"W | 1.66 | |
| 2670.00 | 5.100 | 149.520 | 2653.24 | -191.40 | -191.37 | 4.21 | 40°00'53.913"N | 104°53'53.282"W | 2.10 | |
| 2762.00 | 2.330 | 146.230 | 2745.04 | -196.49 | -196.45 | 7.32 | 40°00'53.863"N | 104°53'53.242"W | 3.02 | |
| 2853.00 | 0.500 | 129.840 | 2836.01 | -198.29 | -198.25 | 8.66 | 40°00'53.845"N | 104°53'53.225"W | 2.04 | |
| 3035.00 | 0.510 | 77.160 | 3018.00 | -198.63 | -198.58 | 10.06 | 40°00'53.842"N | 104°53'53.207"W | 0.25 | |
| 3401.00 | 0.720 | 58.070 | 3383.98 | -197.07 | -197.00 | 13.60 | 40°00'53.857"N | 104°53'53.161"W | 0.08 | |
| 3770.00 | 1.320 | 350.910 | 3752.93 | -191.66 | -191.57 | 14.89 | 40°00'53.911"N | 104°53'53.145"W | 0.33 | |
| 3956.00 | 1.730 | 344.420 | 3938.87 | -186.83 | -186.75 | 13.80 | 40°00'53.958"N | 104°53'53.159"W | 0.24 | |
| 4050.00 | 1.930 | 348.080 | 4032.82 | -183.91 | -183.84 | 13.09 | 40°00'53.987"N | 104°53'53.168"W | 0.25 | |
| 4143.00 | 1.360 | 7.860 | 4125.78 | -181.29 | -181.21 | 12.92 | 40°00'54.013"N | 104°53'53.170"W | 0.86 | |
| 4237.00 | 1.190 | 180.500 | 4219.77 | -181.16 | -181.08 | 13.06 | 40°00'54.014"N | 104°53'53.168"W | 2.71 | |
| 4423.00 | 1.100 | 232.000 | 4405.74 | -184.18 | -184.11 | 11.64 | 40°00'53.985"N | 104°53'53.186"W | 0.54 | |
| 4789.00 | 1.780 | 279.360 | 4771.63 | -185.37 | -185.35 | 3.26 | 40°00'53.972"N | 104°53'53.294"W | 0.36 | |
| 4874.00 | 1.410 | 289.160 | 4856.60 | -184.80 | -184.80 | 0.97 | 40°00'53.978"N | 104°53'53.324"W | 0.54 | |
| 4959.00 | 0.740 | 304.950 | 4941.59 | -184.13 | -184.14 | -0.47 | 40°00'53.984"N | 104°53'53.342"W | 0.85 | |
| 5215.00 | 0.670 | 274.950 | 5197.57 | -183.04 | -183.06 | -3.31 | 40°00'53.995"N | 104°53'53.379"W | 0.14 | |
| 5555.00 | 0.520 | 49.410 | 5537.56 | -181.86 | -181.89 | -4.12 | 40°00'54.007"N | 104°53'53.389"W | 0.32 | |

Actual Wellpath Report

HOWARD 3C-28HZ AWP

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| REFERENCE WELLPATH IDENTIFICATION | | | | |
|-----------------------------------|---------------------------------|----------|---|--|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#26 HOWARD 3C-28HZ (246'FSL & 1882'FWL, SEC.28) | |
| Area | COLORADO | Well | HOWARD 3C-28HZ | |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 3C-28HZ AWB | |
| Facility | SEC.28-T1N-R67W | | | |

| WELLPATH DATA (113 stations) † = interpolated/extrapolated station | | | | | | | | | | |
|--|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------|-----------------|------------------|-----------------|
| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Latitude | Longitude | DLS [°/100ft] | Comments |
| 5896.00 | 0.890 | 55.810 | 5878.53 | -179.38 | -179.39 | -0.76 | 40°00'54.031"N | 104°53'53.346"W | 0.11 | |
| 6236.00 | 0.480 | 18.960 | 6218.51 | -176.57 | -176.56 | 1.89 | 40°00'54.059"N | 104°53'53.312"W | 0.17 | |
| 6578.00 | 0.810 | 319.490 | 6560.49 | -173.37 | -173.37 | 0.79 | 40°00'54.091"N | 104°53'53.326"W | 0.20 | |
| 6663.00 | 1.220 | 285.230 | 6645.48 | -172.67 | -172.67 | -0.48 | 40°00'54.098"N | 104°53'53.342"W | 0.84 | |
| 6748.00 | 0.110 | 97.620 | 6730.47 | -172.44 | -172.45 | -1.27 | 40°00'54.100"N | 104°53'53.352"W | 1.56 | |
| 7089.00 | 0.770 | 330.240 | 7071.46 | -170.49 | -170.50 | -2.08 | 40°00'54.119"N | 104°53'53.363"W | 0.25 | |
| 7174.00 | 1.970 | 336.980 | 7156.44 | -168.64 | -168.66 | -2.94 | 40°00'54.137"N | 104°53'53.374"W | 1.42 | |
| 7217.00 | 5.880 | 339.680 | 7199.33 | -165.89 | -165.91 | -3.99 | 40°00'54.164"N | 104°53'53.387"W | 9.10 | |
| 7260.00 | 9.690 | 342.490 | 7241.92 | -160.36 | -160.39 | -5.85 | 40°00'54.219"N | 104°53'53.411"W | 8.90 | |
| 7302.00 | 13.980 | 344.460 | 7283.02 | -152.08 | -152.13 | -8.27 | 40°00'54.301"N | 104°53'53.442"W | 10.26 | |
| 7345.00 | 18.940 | 345.280 | 7324.25 | -140.30 | -140.37 | -11.44 | 40°00'54.417"N | 104°53'53.483"W | 11.55 | |
| 7387.00 | 22.810 | 348.900 | 7363.48 | -125.69 | -125.78 | -14.74 | 40°00'54.561"N | 104°53'53.525"W | 9.71 | |
| 7430.00 | 23.360 | 353.200 | 7403.04 | -109.03 | -109.14 | -17.35 | 40°00'54.725"N | 104°53'53.559"W | 4.12 | |
| 7472.00 | 25.340 | 357.240 | 7441.31 | -91.78 | -91.89 | -18.77 | 40°00'54.896"N | 104°53'53.577"W | 6.16 | |
| 7515.00 | 29.840 | 1.430 | 7479.41 | -71.88 | -71.99 | -18.95 | 40°00'55.093"N | 104°53'53.580"W | 11.39 | |
| 7557.00 | 33.080 | 1.970 | 7515.23 | -49.98 | -50.08 | -18.29 | 40°00'55.309"N | 104°53'53.571"W | 7.74 | |
| 7600.00 | 38.450 | 1.330 | 7550.11 | -24.87 | -24.97 | -17.58 | 40°00'55.557"N | 104°53'53.562"W | 12.52 | |
| 7642.00 | 42.060 | 0.800 | 7582.16 | 2.26 | 2.16 | -17.08 | 40°00'55.825"N | 104°53'53.555"W | 8.63 | |
| 7685.00 | 44.160 | 1.170 | 7613.55 | 31.63 | 31.54 | -16.57 | 40°00'56.116"N | 104°53'53.549"W | 4.92 | |
| 7727.00 | 49.160 | 1.740 | 7642.37 | 62.16 | 62.06 | -15.79 | 40°00'56.417"N | 104°53'53.539"W | 11.95 | |
| 7769.00 | 52.470 | 1.670 | 7668.90 | 94.69 | 94.60 | -14.82 | 40°00'56.739"N | 104°53'53.526"W | 7.88 | |
| 7812.00 | 57.370 | 0.370 | 7693.60 | 129.85 | 129.77 | -14.21 | 40°00'57.086"N | 104°53'53.519"W | 11.66 | |
| 7854.00 | 62.500 | 359.600 | 7714.64 | 166.19 | 166.11 | -14.22 | 40°00'57.446"N | 104°53'53.519"W | 12.32 | |
| 7897.00 | 67.200 | 0.530 | 7732.91 | 205.10 | 205.02 | -14.17 | 40°00'57.830"N | 104°53'53.518"W | 11.10 | |
| 7939.00 | 70.810 | 0.010 | 7747.95 | 244.30 | 244.23 | -13.99 | 40°00'58.218"N | 104°53'53.516"W | 8.67 | |
| 7982.00 | 74.360 | 359.820 | 7760.82 | 285.33 | 285.25 | -14.05 | 40°00'58.623"N | 104°53'53.517"W | 8.27 | |
| 8024.00 | 79.370 | 0.320 | 7770.36 | 326.21 | 326.14 | -14.00 | 40°00'59.027"N | 104°53'53.516"W | 11.98 | |
| 8062.00 | 83.700 | 0.950 | 7775.96 | 363.78 | 363.71 | -13.58 | 40°00'59.398"N | 104°53'53.511"W | 11.51 | |
| 8110.00† | 85.279 | 1.197 | 7780.57 | 411.55 | 411.48 | -12.69 | 40°00'59.870"N | 104°53'53.499"W | 3.33 | 7" CASING POINT |
| 8214.00 | 88.700 | 1.730 | 7786.03 | 515.34 | 515.29 | -10.03 | 40°01'00.896"N | 104°53'53.465"W | 3.33 | |
| 8299.00 | 89.960 | 0.780 | 7787.02 | 600.29 | 600.26 | -8.17 | 40°01'01.736"N | 104°53'53.441"W | 1.86 | |
| 8385.00 | 90.640 | 0.370 | 7786.57 | 686.28 | 686.25 | -7.31 | 40°01'02.586"N | 104°53'53.430"W | 0.92 | |
| 8555.00 | 91.010 | 359.960 | 7784.12 | 856.26 | 856.23 | -6.82 | 40°01'04.266"N | 104°53'53.424"W | 0.32 | |
| 8725.00 | 91.020 | 359.800 | 7781.11 | 1026.23 | 1026.20 | -7.17 | 40°01'05.945"N | 104°53'53.428"W | 0.09 | |
| 8896.00 | 90.800 | 3.070 | 7778.39 | 1197.10 | 1197.11 | -2.89 | 40°01'07.634"N | 104°53'53.373"W | 1.92 | |
| 9066.00 | 91.140 | 359.150 | 7775.52 | 1366.99 | 1367.02 | 0.40 | 40°01'09.313"N | 104°53'53.331"W | 2.31 | |
| 9151.00 | 91.130 | 359.570 | 7773.83 | 1451.97 | 1451.99 | -0.55 | 40°01'10.153"N | 104°53'53.343"W | 0.49 | |
| 9237.00 | 89.840 | 358.830 | 7773.10 | 1537.96 | 1537.98 | -1.75 | 40°01'11.003"N | 104°53'53.359"W | 1.73 | |
| 9322.00 | 90.400 | 358.510 | 7772.93 | 1622.95 | 1622.96 | -3.72 | 40°01'11.843"N | 104°53'53.384"W | 0.76 | |
| 9407.00 | 90.400 | 359.140 | 7772.33 | 1707.94 | 1707.94 | -5.47 | 40°01'12.682"N | 104°53'53.406"W | 0.74 | |
| 9492.00 | 89.650 | 359.510 | 7772.30 | 1792.94 | 1792.93 | -6.47 | 40°01'13.522"N | 104°53'53.419"W | 0.98 | |
| 9578.00 | 89.630 | 359.550 | 7772.84 | 1878.93 | 1878.92 | -7.17 | 40°01'14.372"N | 104°53'53.428"W | 0.05 | |
| 9663.00 | 89.900 | 0.260 | 7773.18 | 1963.93 | 1963.92 | -7.31 | 40°01'15.212"N | 104°53'53.430"W | 0.89 | |
| 9748.00 | 88.700 | 359.270 | 7774.22 | 2048.92 | 2048.91 | -7.66 | 40°01'16.052"N | 104°53'53.434"W | 1.83 | |
| 9919.00 | 88.890 | 358.920 | 7777.82 | 2219.88 | 2219.85 | -10.36 | 40°01'17.741"N | 104°53'53.469"W | 0.23 | |

Actual Wellpath Report

HOWARD 3C-28HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|---------------------------------|----------|---|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#26 HOWARD 3C-28HZ (246'FSL & 1882'FWL, SEC.28) |
| Area | COLORADO | Well | HOWARD 3C-28HZ |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 3C-28HZ AWB |
| Facility | SEC.28-T1N-R67W | | |

WELLPATH DATA (113 stations)

| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Latitude | Longitude | DLS [°/100ft] | Comments |
|----------|-----------------|-------------|----------|----------------|------------|-----------|----------------|-----------------|---------------|-------------------------|
| 10089.00 | 89.410 | 359.730 | 7780.34 | 2389.85 | 2389.82 | -12.37 | 40°01'19.421"N | 104°53'53.495"W | 0.57 | |
| 10174.00 | 90.920 | 0.320 | 7780.10 | 2474.85 | 2474.82 | -12.33 | 40°01'20.261"N | 104°53'53.494"W | 1.91 | |
| 10344.00 | 90.300 | 0.010 | 7778.29 | 2644.83 | 2644.81 | -11.84 | 40°01'21.941"N | 104°53'53.488"W | 0.41 | |
| 10514.00 | 91.570 | 359.920 | 7775.51 | 2814.80 | 2814.78 | -11.94 | 40°01'23.620"N | 104°53'53.490"W | 0.75 | |
| 10683.00 | 91.690 | 359.790 | 7770.71 | 2983.73 | 2983.71 | -12.37 | 40°01'25.290"N | 104°53'53.495"W | 0.10 | |
| 10768.00 | 91.570 | 359.390 | 7768.29 | 3068.70 | 3068.68 | -12.98 | 40°01'26.130"N | 104°53'53.503"W | 0.49 | |
| 10854.00 | 91.010 | 359.850 | 7766.35 | 3154.68 | 3154.65 | -13.55 | 40°01'26.979"N | 104°53'53.510"W | 0.84 | |
| 11024.00 | 88.260 | 359.290 | 7767.43 | 3324.66 | 3324.63 | -14.82 | 40°01'28.659"N | 104°53'53.527"W | 1.65 | |
| 11194.00 | 88.890 | 359.160 | 7771.66 | 3494.60 | 3494.56 | -17.12 | 40°01'30.338"N | 104°53'53.556"W | 0.38 | |
| 11279.00 | 89.960 | 359.790 | 7772.51 | 3579.59 | 3579.55 | -17.90 | 40°01'31.178"N | 104°53'53.566"W | 1.46 | |
| 11364.00 | 90.950 | 0.110 | 7771.84 | 3664.59 | 3664.54 | -17.98 | 40°01'32.018"N | 104°53'53.567"W | 1.22 | |
| 11535.00 | 89.960 | 359.680 | 7770.48 | 3835.58 | 3835.54 | -18.29 | 40°01'33.708"N | 104°53'53.571"W | 0.63 | |
| 11620.00 | 90.830 | 0.070 | 7769.90 | 3920.57 | 3920.53 | -18.47 | 40°01'34.548"N | 104°53'53.573"W | 1.12 | |
| 11705.00 | 90.550 | 359.780 | 7768.87 | 4005.57 | 4005.53 | -18.59 | 40°01'35.388"N | 104°53'53.575"W | 0.47 | |
| 11875.00 | 89.930 | 359.380 | 7768.16 | 4175.56 | 4175.52 | -19.83 | 40°01'37.068"N | 104°53'53.591"W | 0.43 | |
| 11961.00 | 90.550 | 359.740 | 7767.80 | 4261.56 | 4261.51 | -20.49 | 40°01'37.918"N | 104°53'53.599"W | 0.83 | |
| 12046.00 | 91.350 | 0.130 | 7766.39 | 4346.55 | 4346.50 | -20.59 | 40°01'38.757"N | 104°53'53.601"W | 1.05 | |
| 12216.00 | 91.410 | 359.650 | 7762.30 | 4516.50 | 4516.45 | -20.92 | 40°01'40.437"N | 104°53'53.605"W | 0.28 | |
| 12386.00 | 90.950 | 359.320 | 7758.80 | 4686.46 | 4686.41 | -22.44 | 40°01'42.116"N | 104°53'53.625"W | 0.33 | |
| 12557.00 | 90.490 | 358.600 | 7756.65 | 4857.43 | 4857.36 | -25.55 | 40°01'43.806"N | 104°53'53.664"W | 0.50 | |
| 12642.00 | 90.980 | 358.910 | 7755.56 | 4942.41 | 4942.34 | -27.39 | 40°01'44.646"N | 104°53'53.688"W | 0.68 | |
| 12652.00 | 91.080 | 358.290 | 7755.38 | 4952.41 | 4952.33 | -27.64 | 40°01'44.744"N | 104°53'53.691"W | 6.28 | LAST BHI MWD+IFR SURVEY |
| 12707.00 | 91.080 | 358.290 | 7754.34 | 5007.38 | 5007.30 | -29.28 | 40°01'45.288"N | 104°53'53.712"W | 0.00 | PROJECTION TO BIT |

HOLE & CASING SECTIONS - Ref Wellbore: HOWARD 3C-28HZ AWB Ref Wellpath: HOWARD 3C-28HZ 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] |
|-------------------------|---------------|-------------|---------------|----------------|--------------|----------------|----------------|--------------|--------------|
| 13.5in Open Hole | 16.00 | 1022.00 | 1006.00 | 16.00 | 1021.95 | 0.00 | 0.00 | 0.09 | -9.27 |
| 9.625in Casing Surface | 16.00 | 1022.00 | 1006.00 | 16.00 | 1021.95 | 0.00 | 0.00 | 0.09 | -9.27 |
| 8.75in Open Hole | 1022.00 | 8120.00 | 7098.00 | 1021.95 | 7781.36 | 0.09 | -9.27 | 421.44 | -12.47 |
| 7in Casing Intermediate | 16.00 | 8110.00 | 8094.00 | 16.00 | 7780.57 | 0.00 | 0.00 | 411.48 | -12.69 |
| 6.125in Open Hole | 8120.00 | 12707.00 | 4587.00 | 7781.36 | 7754.34 | 421.44 | -12.47 | 5007.30 | -29.28 |

Actual Wellpath Report

HOWARD 3C-28HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|---------------------------------|----------|---|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#26 HOWARD 3C-28HZ (246'FSL & 1882'FWL, SEC.28) |
| Area | COLORADO | Well | HOWARD 3C-28HZ |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 3C-28HZ AWB |
| Facility | SEC.28-T1N-R67W | | |

TARGETS

| Name | MD [ft] | TVD [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude | Longitude | Shape |
|---|---------|----------|------------|-----------|-------------------|--------------------|----------------|-----------------|---------|
| SEC.28-T1N-R67W SECTION LINES | | 5036.00 | 4725.93 | 2273.67 | 3170812.59 | 1253806.63 | 40°01'42.506"N | 104°53'24.108"W | polygon |
| HOWARD 3C-28HZ BHL ON PLAT REV-1 (1'FNL & 1890'FWL, SEC.28) | | 7756.00 | 5033.33 | -22.15 | 3168514.82 | 1254098.42 | 40°01'45.545"N | 104°53'53.621"W | point |
| HOWARD 3C-28HZ LAND BOX | | 7800.00 | 0.00 | 0.00 | 3168571.13 | 1249065.55 | 40°00'55.804"N | 104°53'53.336"W | polygon |

WELLPATH COMPOSITION - Ref Wellbore: HOWARD 3C-28HZ AWB Ref Wellpath: HOWARD 3C-28HZ AWP

| Start MD [ft] | End MD [ft] | Positional Uncertainty Model | Log Name/Comment | Wellbore |
|---------------|-------------|--------------------------------------|--|--------------------|
| 16.00 | 934.00 | Generic gyro - continuous (Standard) | MS GYRODATA SURVEYS <116-934> | HOWARD 3C-28HZ AWB |
| 934.00 | 8062.00 | NaviTrak (MAGCORR,IFR) | BHI MWD+IFR SURVEYS 8 3/4" HOLE <1090-8062> | HOWARD 3C-28HZ AWB |
| 8062.00 | 12652.00 | OnTrak (MAGCORR,IFR) | BHI MWD+IFR SURVEYS 6 1/8" HOLE <8214-12652> | HOWARD 3C-28HZ AWB |
| 12652.00 | 12707.00 | Blind Drilling (std) | Projection to bit | HOWARD 3C-28HZ AWB |

Actual Wellpath Report

HOWARD 3C-28HZ AWP

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|---------------------------------|----------|---|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot | SLOT#26 HOWARD 3C-28HZ (246'FSL & 1882'FWL, SEC.28) |
| Area | COLORADO | Well | HOWARD 3C-28HZ |
| Field | WELD COUNTY (KERR MCGEE) | Wellbore | HOWARD 3C-28HZ AWB |
| Facility | SEC.28-T1N-R67W | | |

WELLPATH COMMENTS

| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Comment |
|------------|--------------------|----------------|-------------|---------------------------|
| 16.00 | 0.000 | 246.990 | 16.00 | TIE-ON |
| 116.00 | 0.660 | 246.990 | 116.00 | BEGIN GYRO SURVEYS |
| 934.00 | 0.410 | 281.020 | 933.96 | TIE-INTO GYRO SURVEYS |
| 1090.00 | 0.480 | 292.360 | 1089.95 | BEGIN BHI MWD+IFR SURVEYS |
| 8110.00 | 85.279 | 1.197 | 7780.57 | 7" CASING POINT |
| 12652.00 | 91.080 | 358.290 | 7755.38 | LAST BHI MWD+IFR SURVEY |
| 12707.00 | 91.080 | 358.290 | 7754.34 | PROJECTION TO BIT |