



| REFERENCE WELLPATH IDENTIFICATION |                                 |          |   |
|-----------------------------------|---------------------------------|----------|---|
| Operator                          | KERR-MCGEE OIL & GAS ONSHORE LP | Slot     | SLOT#15 GRISWOLD 3C-11HZ (560'FSL & 1998'FWL, SEC.11) |
| Area                              | COLORADO                        | Well     | GRISWOLD 3C-11HZ                                      |
| Field                             | WELD COUNTY (KERR MCGEE)        | Wellbore | GRISWOLD 3C-11HZ PWB                                  |
| Facility                          | SEC.11-T1N-R66W                 |          |   |

| REPORT SETUP INFORMATION |   |                      |  |
|--------------------------|---|----------------------|--|
| Projection System        | NAD83 / Lambert Colorado SP, Northern Zone (501), US feet | Software System      | WellArchitect® 4.0.0                     |
| North Reference          | True  | User                 | Amarcar                                  |
| Scale                    | 0.999962  | Report Generated     | 10/14/2014 at 11:12:30 AM                |
| Convergence at slot      | n/a   | Database/Source file | WellArchitectDB/GRISWOLD_3C-11HZ_PWB.xml |

| WELLPATH LOCATION     |                   |          |                  |                 |                        |                 |
|-----------------------|-------------------|----------|------------------|-----------------|------------------------|-----------------|
|                       | Local coordinates |          | Grid coordinates |                 | Geographic coordinates |                 |
|                       | North[ft]         | East[ft] | Easting[US ft]   | Northing[US ft] | Latitude               | Longitude       |
| Slot Location         | -4227.55          | 1507.67  | 3210863.82       | 1265630.71      | 40°03'36.313"N         | 104°44'47.958"W |
| Facility Reference Pt |                   |          | 3209320.61       | 1269845.23      | 40°04'18.091"N         | 104°45'07.348"W |
| Field Reference Pt    |                   |          | 3197771.84       | 1268891.29      | 40°04'09.600"N         | 104°47'36.000"W |

| WELLPATH DATUM           |                      |  |                   |
|--------------------------|----------------------|--|-------------------|
| Calculation method       | Minimum curvature    | PERMIT (17'KB) (RKB) to Facility Vertical Datum  | 5159.00ft         |
| Horizontal Reference Pt  | Slot                 | PERMIT (17'KB) (RKB) to Mean Sea Level   | 5159.00ft         |
| Vertical Reference Pt    | PERMIT (17'KB) (RKB) | PERMIT (17'KB) (RKB) to Mud Line at Slot (SLOT#15 GRISWOLD 3C-11HZ (560'FSL & 1998'FWL, SEC.11)) | 5159.00ft         |
| MD Reference Pt          | PERMIT (17'KB) (RKB) | Section Origin   | N 0.00, E 0.00 ft |
| Field Vertical Reference | Mean Sea Level       | Section Azimuth  | 0.28°             |

### REFERENCE WELLPATH IDENTIFICATION

|          |                                 |          |   |
|----------|---------------------------------|----------|---|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot     | SLOT#15 GRISWOLD 3C-11HZ (560'FSL & 1998'FWL, SEC.11) |
| Area     | COLORADO                        | Well     | GRISWOLD 3C-11HZ                                      |
| Field    | WELD COUNTY (KERR MCGEE)        | Wellbore | GRISWOLD 3C-11HZ PWB                                  |
| Facility | SEC.11-T1N-R66W                 |          |   |

### WELLPATH DATA (151 stations) † = interpolated/extrapolated station

| MD<br>[ft] | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Latitude       | Longitude       | DLS<br>[°/100ft] | Comments                  |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------|-----------------|------------------|---------------------------|
| 0.00†      | 0.000              | 167.370        | 0.00        | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 17.00      | 0.000              | 167.370        | 17.00       | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             | TIE ON                    |
| 117.00†    | 0.000              | 167.370        | 117.00      | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 217.00†    | 0.000              | 167.370        | 217.00      | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 317.00†    | 0.000              | 167.370        | 317.00      | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 417.00†    | 0.000              | 167.370        | 417.00      | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 517.00†    | 0.000              | 167.370        | 517.00      | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 617.00†    | 0.000              | 167.370        | 617.00      | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 717.00†    | 0.000              | 167.370        | 717.00      | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 817.00†    | 0.000              | 167.370        | 817.00      | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 907.00†    | 0.000              | 167.370        | 907.00      | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             | BASE FOX HILLS            |
| 917.00†    | 0.000              | 167.370        | 917.00      | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 1017.00†   | 0.000              | 167.370        | 1017.00     | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 1117.00†   | 0.000              | 167.370        | 1117.00     | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 1217.00†   | 0.000              | 167.370        | 1217.00     | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 1317.00†   | 0.000              | 167.370        | 1317.00     | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 1417.00†   | 0.000              | 167.370        | 1417.00     | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 1517.00†   | 0.000              | 167.370        | 1517.00     | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 1617.00†   | 0.000              | 167.370        | 1617.00     | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 1641.00†   | 0.000              | 167.370        | 1641.00     | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             | SURFACE CSG SETTING DEPTH |
| 1717.00†   | 0.000              | 167.370        | 1717.00     | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             |                           |
| 1741.00    | 0.000              | 167.370        | 1741.00     | 0.00              | 0.00          | 0.00         | 40°03'36.313"N | 104°44'47.958"W | 0.00             | BEGIN NUDGE               |
| 1817.00†   | 1.520              | 167.370        | 1816.99     | -0.98             | -0.98         | 0.22         | 40°03'36.303"N | 104°44'47.955"W | 2.00             |                           |
| 1917.00†   | 3.520              | 167.370        | 1916.89     | -5.27             | -5.27         | 1.18         | 40°03'36.261"N | 104°44'47.943"W | 2.00             |                           |
| 2017.00†   | 5.520              | 167.370        | 2016.57     | -12.95            | -12.96        | 2.90         | 40°03'36.185"N | 104°44'47.921"W | 2.00             |                           |
| 2117.00†   | 7.520              | 167.370        | 2115.92     | -24.02            | -24.04        | 5.39         | 40°03'36.075"N | 104°44'47.889"W | 2.00             |                           |
| 2217.00†   | 9.520              | 167.370        | 2214.81     | -38.46            | -38.50        | 8.63         | 40°03'35.933"N | 104°44'47.847"W | 2.00             |                           |
| 2317.00†   | 11.520             | 167.370        | 2313.13     | -56.25            | -56.31        | 12.62        | 40°03'35.756"N | 104°44'47.796"W | 2.00             |                           |
| 2417.00†   | 13.520             | 167.370        | 2410.74     | -77.38            | -77.47        | 17.36        | 40°03'35.547"N | 104°44'47.735"W | 2.00             |                           |
| 2517.00†   | 15.520             | 167.370        | 2507.55     | -101.82           | -101.93       | 22.84        | 40°03'35.306"N | 104°44'47.664"W | 2.00             |                           |
| 2541.00    | 16.000             | 167.370        | 2530.64     | -108.17           | -108.29       | 24.27        | 40°03'35.243"N | 104°44'47.646"W | 2.00             | END NUDGE                 |
| 2617.00†   | 16.000             | 167.370        | 2603.70     | -128.59           | -128.73       | 28.85        | 40°03'35.041"N | 104°44'47.587"W | 0.00             |                           |
| 2717.00†   | 16.000             | 167.370        | 2699.82     | -155.46           | -155.63       | 34.87        | 40°03'34.775"N | 104°44'47.510"W | 0.00             |                           |
| 2817.00†   | 16.000             | 167.370        | 2795.95     | -182.33           | -182.53       | 40.90        | 40°03'34.509"N | 104°44'47.432"W | 0.00             |                           |
| 2917.00†   | 16.000             | 167.370        | 2892.08     | -209.19           | -209.42       | 46.93        | 40°03'34.243"N | 104°44'47.354"W | 0.00             |                           |
| 3017.00†   | 16.000             | 167.370        | 2988.20     | -236.06           | -236.32       | 52.95        | 40°03'33.978"N | 104°44'47.277"W | 0.00             |                           |
| 3117.00†   | 16.000             | 167.370        | 3084.33     | -262.93           | -263.22       | 58.98        | 40°03'33.712"N | 104°44'47.199"W | 0.00             |                           |
| 3217.00†   | 16.000             | 167.370        | 3180.46     | -289.79           | -290.11       | 65.01        | 40°03'33.446"N | 104°44'47.122"W | 0.00             |                           |
| 3317.00†   | 16.000             | 167.370        | 3276.58     | -316.66           | -317.01       | 71.03        | 40°03'33.180"N | 104°44'47.044"W | 0.00             |                           |
| 3417.00†   | 16.000             | 167.370        | 3372.71     | -343.53           | -343.91       | 77.06        | 40°03'32.914"N | 104°44'46.967"W | 0.00             |                           |
| 3517.00†   | 16.000             | 167.370        | 3468.83     | -370.40           | -370.80       | 83.09        | 40°03'32.649"N | 104°44'46.889"W | 0.00             |                           |
| 3617.00†   | 16.000             | 167.370        | 3564.96     | -397.26           | -397.70       | 89.12        | 40°03'32.383"N | 104°44'46.812"W | 0.00             |                           |
| 3717.00†   | 16.000             | 167.370        | 3661.09     | -424.13           | -424.60       | 95.14        | 40°03'32.117"N | 104°44'46.734"W | 0.00             |                           |
| 3817.00†   | 16.000             | 167.370        | 3757.21     | -451.00           | -451.49       | 101.17       | 40°03'31.851"N | 104°44'46.657"W | 0.00             |                           |
| 3917.00†   | 16.000             | 167.370        | 3853.34     | -477.86           | -478.39       | 107.20       | 40°03'31.585"N | 104°44'46.579"W | 0.00             |                           |

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| Area                              | COLORADO                        | Well     | GRISWOLD 3C-11HZ                                      |  |
| Field                             | WELD COUNTY (KERR MCGEE)        | Wellbore | GRISWOLD 3C-11HZ PWB                                  |  |
| Facility                          | SEC.11-T1N-R66W                 |          |   |  |

| WELLPATH DATA (151 stations) † = interpolated/extrapolated station |                    |                |             |                   |               |              |                |                 |                  |                       |
|--|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------|-----------------|------------------|-----------------------|
| MD<br>[ft]   | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Latitude       | Longitude       | DLS<br>[°/100ft] | Comments              |
| 4017.00†   | 16.000             | 167.370        | 3949.47     | -504.73           | -505.29       | 113.22       | 40°03'31.320"N | 104°44'46.502"W | 0.00             |                       |
| 4117.00†   | 16.000             | 167.370        | 4045.59     | -531.60           | -532.18       | 119.25       | 40°03'31.054"N | 104°44'46.424"W | 0.00             |                       |
| 4217.00†   | 16.000             | 167.370        | 4141.72     | -558.46           | -559.08       | 125.28       | 40°03'30.788"N | 104°44'46.347"W | 0.00             |                       |
| 4317.00†   | 16.000             | 167.370        | 4237.84     | -585.33           | -585.98       | 131.30       | 40°03'30.522"N | 104°44'46.269"W | 0.00             |                       |
| 4417.00†   | 16.000             | 167.370        | 4333.97     | -612.20           | -612.87       | 137.33       | 40°03'30.256"N | 104°44'46.192"W | 0.00             |                       |
| 4505.46†   | 16.000             | 167.370        | 4419.00     | -635.96           | -636.67       | 142.66       | 40°03'30.021"N | 104°44'46.123"W | 0.00             | PARKMAN               |
| 4517.00†   | 16.000             | 167.370        | 4430.10     | -639.07           | -639.77       | 143.36       | 40°03'29.991"N | 104°44'46.114"W | 0.00             |                       |
| 4617.00†   | 16.000             | 167.370        | 4526.22     | -665.93           | -666.67       | 149.38       | 40°03'29.725"N | 104°44'46.037"W | 0.00             |                       |
| 4717.00†   | 16.000             | 167.370        | 4622.35     | -692.80           | -693.57       | 155.41       | 40°03'29.459"N | 104°44'45.959"W | 0.00             |                       |
| 4813.39†   | 16.000             | 167.370        | 4715.00     | -718.70           | -719.49       | 161.22       | 40°03'29.203"N | 104°44'45.885"W | 0.00             | SUSSEX                |
| 4817.00†   | 16.000             | 167.370        | 4718.47     | -719.67           | -720.46       | 161.44       | 40°03'29.193"N | 104°44'45.882"W | 0.00             |                       |
| 4917.00†   | 16.000             | 167.370        | 4814.60     | -746.53           | -747.36       | 167.47       | 40°03'28.927"N | 104°44'45.804"W | 0.00             |                       |
| 5017.00†   | 16.000             | 167.370        | 4910.73     | -773.40           | -774.26       | 173.49       | 40°03'28.662"N | 104°44'45.727"W | 0.00             |                       |
| 5117.00†   | 16.000             | 167.370        | 5006.85     | -800.27           | -801.15       | 179.52       | 40°03'28.396"N | 104°44'45.649"W | 0.00             |                       |
| 5217.00†   | 16.000             | 167.370        | 5102.98     | -827.14           | -828.05       | 185.55       | 40°03'28.130"N | 104°44'45.572"W | 0.00             |                       |
| 5317.00†   | 16.000             | 167.370        | 5199.11     | -854.00           | -854.95       | 191.57       | 40°03'27.864"N | 104°44'45.494"W | 0.00             |                       |
| 5417.00†   | 16.000             | 167.370        | 5295.23     | -880.87           | -881.84       | 197.60       | 40°03'27.598"N | 104°44'45.417"W | 0.00             |                       |
| 5517.00†   | 16.000             | 167.370        | 5391.36     | -907.74           | -908.74       | 203.63       | 40°03'27.333"N | 104°44'45.339"W | 0.00             |                       |
| 5617.00†   | 16.000             | 167.370        | 5487.48     | -934.60           | -935.64       | 209.65       | 40°03'27.067"N | 104°44'45.262"W | 0.00             |                       |
| 5717.00†   | 16.000             | 167.370        | 5583.61     | -961.47           | -962.53       | 215.68       | 40°03'26.801"N | 104°44'45.184"W | 0.00             |                       |
| 5779.82  | 16.000             | 167.370        | 5644.00     | -978.35           | -979.43       | 219.47       | 40°03'26.634"N | 104°44'45.136"W | 0.00             | BEGIN DROP            |
| 5817.00†   | 15.256             | 167.370        | 5679.80     | -988.11           | -989.20       | 221.66       | 40°03'26.537"N | 104°44'45.107"W | 2.00             |                       |
| 5917.00†   | 13.256             | 167.370        | 5776.72     | -1012.11          | -1013.23      | 227.04       | 40°03'26.300"N | 104°44'45.038"W | 2.00             |                       |
| 6017.00†   | 11.256             | 167.370        | 5874.43     | -1032.81          | -1033.95      | 231.68       | 40°03'26.095"N | 104°44'44.978"W | 2.00             |                       |
| 6117.00†   | 9.256              | 167.370        | 5972.83     | -1050.16          | -1051.32      | 235.58       | 40°03'25.924"N | 104°44'44.928"W | 2.00             |                       |
| 6217.00†   | 7.256              | 167.370        | 6071.79     | -1064.16          | -1065.33      | 238.72       | 40°03'25.785"N | 104°44'44.888"W | 2.00             |                       |
| 6317.00†   | 5.256              | 167.370        | 6171.19     | -1074.78          | -1075.97      | 241.10       | 40°03'25.680"N | 104°44'44.857"W | 2.00             |                       |
| 6417.00†   | 3.256              | 167.370        | 6270.91     | -1082.01          | -1083.21      | 242.72       | 40°03'25.608"N | 104°44'44.837"W | 2.00             |                       |
| 6517.00†   | 1.256              | 167.370        | 6370.82     | -1085.85          | -1087.05      | 243.58       | 40°03'25.571"N | 104°44'44.825"W | 2.00             |                       |
| 6579.82  | 0.000              | 0.279          | 6433.64     | -1086.52          | -1087.72      | 243.73       | 40°03'25.564"N | 104°44'44.824"W | 2.00             | END DROP              |
| 6617.00†   | 0.000              | 0.279          | 6470.82     | -1086.52          | -1087.72      | 243.73       | 40°03'25.564"N | 104°44'44.824"W | 0.00             |                       |
| 6717.00†   | 0.000              | 0.279          | 6570.82     | -1086.52          | -1087.72      | 243.73       | 40°03'25.564"N | 104°44'44.824"W | 0.00             |                       |
| 6817.00†   | 0.000              | 0.279          | 6670.82     | -1086.52          | -1087.72      | 243.73       | 40°03'25.564"N | 104°44'44.824"W | 0.00             |                       |
| 6917.00†   | 0.000              | 0.279          | 6770.82     | -1086.52          | -1087.72      | 243.73       | 40°03'25.564"N | 104°44'44.824"W | 0.00             |                       |
| 7017.00†   | 0.000              | 0.279          | 6870.82     | -1086.52          | -1087.72      | 243.73       | 40°03'25.564"N | 104°44'44.824"W | 0.00             |                       |
| 7117.00†   | 0.000              | 0.279          | 6970.82     | -1086.52          | -1087.72      | 243.73       | 40°03'25.564"N | 104°44'44.824"W | 0.00             |                       |
| 7217.00†   | 0.000              | 0.279          | 7070.82     | -1086.52          | -1087.72      | 243.73       | 40°03'25.564"N | 104°44'44.824"W | 0.00             |                       |
| 7218.23  | 0.000              | 0.279          | 7072.05     | -1086.52          | -1087.72      | 243.73       | 40°03'25.564"N | 104°44'44.824"W | 0.00             | KOP, BUILD @ 10°/100' |
| 7317.00†   | 9.877              | 0.279          | 7170.33     | -1078.03          | -1079.23      | 243.77       | 40°03'25.648"N | 104°44'44.823"W | 10.00            |                       |
| 7406.55†   | 18.832             | 0.279          | 7257.00     | -1055.85          | -1057.05      | 243.88       | 40°03'25.867"N | 104°44'44.822"W | 10.00            | SHARON SPRINGS        |
| 7417.00†   | 19.877             | 0.279          | 7266.86     | -1052.39          | -1053.59      | 243.90       | 40°03'25.901"N | 104°44'44.821"W | 10.00            |                       |
| 7446.14†   | 22.791             | 0.279          | 7294.00     | -1041.79          | -1042.99      | 243.95       | 40°03'26.006"N | 104°44'44.821"W | 10.00            | NIOBRARA              |
| 7517.00†   | 29.877             | 0.279          | 7357.46     | -1010.38          | -1011.58      | 244.10       | 40°03'26.316"N | 104°44'44.819"W | 10.00            |                       |
| 7568.61†   | 35.038             | 0.279          | 7401.00     | -982.69           | -983.89       | 244.24       | 40°03'26.590"N | 104°44'44.817"W | 10.00            | NIOBRARA B            |
| 7617.00†   | 39.877             | 0.279          | 7439.40     | -953.27           | -954.47       | 244.38       | 40°03'26.881"N | 104°44'44.815"W | 10.00            |                       |

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|          |                                 |          |   |
|----------|---------------------------------|----------|---|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot     | SLOT#15 GRISWOLD 3C-11HZ (560'FSL & 1998'FWL, SEC.11) |
| Area     | COLORADO                        | Well     | GRISWOLD 3C-11HZ                                      |
| Field    | WELD COUNTY (KERR MCGEE)        | Wellbore | GRISWOLD 3C-11HZ PWB                                  |
| Facility | SEC.11-T1N-R66W                 |          |   |

### WELLPATH DATA (151 stations) † = interpolated/extrapolated station

| MD<br>[ft] | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Latitude       | Longitude       | DLS<br>[°/100ft] | Comments      |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------|-----------------|------------------|---------------|
| 7651.24†   | 43.300             | 0.279          | 7465.00     | -930.55           | -931.75       | 244.49       | 40°03'27.105"N | 104°44'44.814"W | 10.00            | NIOBRARA C    |
| 7717.00†   | 49.877             | 0.279          | 7510.17     | -882.80           | -884.00       | 244.73       | 40°03'27.577"N | 104°44'44.811"W | 10.00            |               |
| 7817.00†   | 59.877             | 0.279          | 7567.63     | -801.11           | -802.31       | 245.12       | 40°03'28.384"N | 104°44'44.806"W | 10.00            |               |
| 7916.90†   | 69.867             | 0.279          | 7610.00     | -710.78           | -711.98       | 245.56       | 40°03'29.277"N | 104°44'44.800"W | 10.00            | FORT HAYS     |
| 7917.00†   | 69.877             | 0.279          | 7610.03     | -710.69           | -711.89       | 245.56       | 40°03'29.278"N | 104°44'44.800"W | 10.00            |               |
| 8010.97†   | 79.274             | 0.279          | 7635.00     | -620.20           | -621.41       | 246.00       | 40°03'30.172"N | 104°44'44.794"W | 10.00            | CODELL        |
| 8017.00†   | 79.877             | 0.279          | 7636.09     | -614.27           | -615.48       | 246.03       | 40°03'30.231"N | 104°44'44.794"W | 10.00            |               |
| 8117.00†   | 89.877             | 0.279          | 7645.01     | -514.80           | -516.00       | 246.52       | 40°03'31.214"N | 104°44'44.788"W | 10.00            |               |
| 8121.55    | 90.332             | 0.279          | 7645.00     | -510.24           | -511.45       | 246.54       | 40°03'31.259"N | 104°44'44.787"W | 10.00            | LANDING POINT |
| 8217.00†   | 90.332             | 0.279          | 7644.45     | -414.80           | -416.01       | 247.00       | 40°03'32.202"N | 104°44'44.781"W | 0.00             |               |
| 8317.00†   | 90.332             | 0.279          | 7643.87     | -314.80           | -316.01       | 247.49       | 40°03'33.190"N | 104°44'44.775"W | 0.00             |               |
| 8417.00†   | 90.332             | 0.279          | 7643.29     | -214.80           | -216.01       | 247.98       | 40°03'34.178"N | 104°44'44.769"W | 0.00             |               |
| 8517.00†   | 90.332             | 0.279          | 7642.71     | -114.80           | -116.02       | 248.47       | 40°03'35.166"N | 104°44'44.763"W | 0.00             |               |
| 8617.00†   | 90.332             | 0.279          | 7642.13     | -14.81            | -16.02        | 248.95       | 40°03'36.155"N | 104°44'44.756"W | 0.00             |               |
| 8717.00†   | 90.332             | 0.279          | 7641.55     | 85.19             | 83.98         | 249.44       | 40°03'37.143"N | 104°44'44.750"W | 0.00             |               |
| 8817.00†   | 90.332             | 0.279          | 7640.97     | 185.19            | 183.98        | 249.93       | 40°03'38.131"N | 104°44'44.744"W | 0.00             |               |
| 8917.00†   | 90.332             | 0.279          | 7640.39     | 285.19            | 283.97        | 250.41       | 40°03'39.119"N | 104°44'44.737"W | 0.00             |               |
| 9017.00†   | 90.332             | 0.279          | 7639.81     | 385.19            | 383.97        | 250.90       | 40°03'40.107"N | 104°44'44.731"W | 0.00             |               |
| 9117.00†   | 90.332             | 0.279          | 7639.23     | 485.19            | 483.97        | 251.39       | 40°03'41.096"N | 104°44'44.725"W | 0.00             |               |
| 9217.00†   | 90.332             | 0.279          | 7638.65     | 585.18            | 583.96        | 251.88       | 40°03'42.084"N | 104°44'44.719"W | 0.00             |               |
| 9317.00†   | 90.332             | 0.279          | 7638.07     | 685.18            | 683.96        | 252.36       | 40°03'43.072"N | 104°44'44.712"W | 0.00             |               |
| 9417.00†   | 90.332             | 0.279          | 7637.49     | 785.18            | 783.96        | 252.85       | 40°03'44.060"N | 104°44'44.706"W | 0.00             |               |
| 9517.00†   | 90.332             | 0.279          | 7636.91     | 885.18            | 883.96        | 253.34       | 40°03'45.048"N | 104°44'44.700"W | 0.00             |               |
| 9617.00†   | 90.332             | 0.279          | 7636.33     | 985.18            | 983.95        | 253.82       | 40°03'46.037"N | 104°44'44.693"W | 0.00             |               |
| 9717.00†   | 90.332             | 0.279          | 7635.75     | 1085.18           | 1083.95       | 254.31       | 40°03'47.025"N | 104°44'44.687"W | 0.00             |               |
| 9817.00†   | 90.332             | 0.279          | 7635.17     | 1185.17           | 1183.95       | 254.80       | 40°03'48.013"N | 104°44'44.681"W | 0.00             |               |
| 9917.00†   | 90.332             | 0.279          | 7634.59     | 1285.17           | 1283.94       | 255.28       | 40°03'49.001"N | 104°44'44.675"W | 0.00             |               |
| 10017.00†  | 90.332             | 0.279          | 7634.01     | 1385.17           | 1383.94       | 255.77       | 40°03'49.989"N | 104°44'44.668"W | 0.00             |               |
| 10117.00†  | 90.332             | 0.279          | 7633.43     | 1485.17           | 1483.94       | 256.26       | 40°03'50.978"N | 104°44'44.662"W | 0.00             |               |
| 10217.00†  | 90.332             | 0.279          | 7632.85     | 1585.17           | 1583.94       | 256.75       | 40°03'51.966"N | 104°44'44.656"W | 0.00             |               |
| 10317.00†  | 90.332             | 0.279          | 7632.27     | 1685.16           | 1683.93       | 257.23       | 40°03'52.954"N | 104°44'44.650"W | 0.00             |               |
| 10417.00†  | 90.332             | 0.279          | 7631.70     | 1785.16           | 1783.93       | 257.72       | 40°03'53.942"N | 104°44'44.643"W | 0.00             |               |
| 10517.00†  | 90.332             | 0.279          | 7631.12     | 1885.16           | 1883.93       | 258.21       | 40°03'54.930"N | 104°44'44.637"W | 0.00             |               |
| 10617.00†  | 90.332             | 0.279          | 7630.54     | 1985.16           | 1983.92       | 258.69       | 40°03'55.919"N | 104°44'44.631"W | 0.00             |               |
| 10717.00†  | 90.332             | 0.279          | 7629.96     | 2085.16           | 2083.92       | 259.18       | 40°03'56.907"N | 104°44'44.624"W | 0.00             |               |
| 10817.00†  | 90.332             | 0.279          | 7629.38     | 2185.16           | 2183.92       | 259.67       | 40°03'57.895"N | 104°44'44.618"W | 0.00             |               |
| 10917.00†  | 90.332             | 0.279          | 7628.80     | 2285.15           | 2283.92       | 260.16       | 40°03'58.883"N | 104°44'44.612"W | 0.00             |               |
| 11017.00†  | 90.332             | 0.279          | 7628.22     | 2385.15           | 2383.91       | 260.64       | 40°03'59.871"N | 104°44'44.606"W | 0.00             |               |
| 11117.00†  | 90.332             | 0.279          | 7627.64     | 2485.15           | 2483.91       | 261.13       | 40°04'00.860"N | 104°44'44.599"W | 0.00             |               |
| 11217.00†  | 90.332             | 0.279          | 7627.06     | 2585.15           | 2583.91       | 261.62       | 40°04'01.848"N | 104°44'44.593"W | 0.00             |               |
| 11317.00†  | 90.332             | 0.279          | 7626.48     | 2685.15           | 2683.90       | 262.10       | 40°04'02.836"N | 104°44'44.587"W | 0.00             |               |
| 11417.00†  | 90.332             | 0.279          | 7625.90     | 2785.15           | 2783.90       | 262.59       | 40°04'03.824"N | 104°44'44.580"W | 0.00             |               |
| 11517.00†  | 90.332             | 0.279          | 7625.32     | 2885.14           | 2883.90       | 263.08       | 40°04'04.812"N | 104°44'44.574"W | 0.00             |               |
| 11617.00†  | 90.332             | 0.279          | 7624.74     | 2985.14           | 2983.90       | 263.57       | 40°04'05.800"N | 104°44'44.568"W | 0.00             |               |
| 11717.00†  | 90.332             | 0.279          | 7624.16     | 3085.14           | 3083.89       | 264.05       | 40°04'06.789"N | 104°44'44.562"W | 0.00             |               |



### REFERENCE WELLPATH IDENTIFICATION

|          |                                 |          |   |
|----------|---------------------------------|----------|---|
| Operator | KERR-MCGEE OIL & GAS ONSHORE LP | Slot     | SLOT#15 GRISWOLD 3C-11HZ (560'FSL & 1998'FWL, SEC.11) |
| Area     | COLORADO                        | Well     | GRISWOLD 3C-11HZ                                      |
| Field    | WELD COUNTY (KERR MCGEE)        | Wellbore | GRISWOLD 3C-11HZ PWB                                  |
| Facility | SEC.11-T1N-R66W                 |          |   |

### WELLPATH DATA (151 stations) † = interpolated/extrapolated station

| MD [ft]   | Inclination [°] | Azimuth [°] | TVD [ft]             | Vert Sect [ft] | North [ft] | East [ft] | Latitude       | Longitude       | DLS [°/100ft] | Comments    |
|-----------|-----------------|-------------|----------------------|----------------|------------|-----------|----------------|-----------------|---------------|-------------|
| 11817.00† | 90.332          | 0.279       | 7623.58              | 3185.14        | 3183.89    | 264.54    | 40°04'07.777"N | 104°44'44.555"W | 0.00          |             |
| 11917.00† | 90.332          | 0.279       | 7623.00              | 3285.14        | 3283.89    | 265.03    | 40°04'08.765"N | 104°44'44.549"W | 0.00          |             |
| 12017.00† | 90.332          | 0.279       | 7622.42              | 3385.14        | 3383.88    | 265.51    | 40°04'09.753"N | 104°44'44.543"W | 0.00          |             |
| 12117.00† | 90.332          | 0.279       | 7621.84              | 3485.13        | 3483.88    | 266.00    | 40°04'10.741"N | 104°44'44.537"W | 0.00          |             |
| 12217.00† | 90.332          | 0.279       | 7621.26              | 3585.13        | 3583.88    | 266.49    | 40°04'11.730"N | 104°44'44.530"W | 0.00          |             |
| 12317.00† | 90.332          | 0.279       | 7620.68              | 3685.13        | 3683.88    | 266.97    | 40°04'12.718"N | 104°44'44.524"W | 0.00          |             |
| 12417.00† | 90.332          | 0.279       | 7620.10              | 3785.13        | 3783.87    | 267.46    | 40°04'13.706"N | 104°44'44.518"W | 0.00          |             |
| 12517.00† | 90.332          | 0.279       | 7619.52              | 3885.13        | 3883.87    | 267.95    | 40°04'14.694"N | 104°44'44.511"W | 0.00          |             |
| 12617.00† | 90.332          | 0.279       | 7618.94              | 3985.13        | 3983.87    | 268.44    | 40°04'15.682"N | 104°44'44.505"W | 0.00          |             |
| 12717.00† | 90.332          | 0.279       | 7618.36              | 4085.12        | 4083.86    | 268.92    | 40°04'16.671"N | 104°44'44.499"W | 0.00          |             |
| 12817.00† | 90.332          | 0.279       | 7617.78              | 4185.12        | 4183.86    | 269.41    | 40°04'17.659"N | 104°44'44.493"W | 0.00          |             |
| 12917.00† | 90.332          | 0.279       | 7617.20              | 4285.12        | 4283.86    | 269.90    | 40°04'18.647"N | 104°44'44.486"W | 0.00          |             |
| 13017.00† | 90.332          | 0.279       | 7616.62              | 4385.12        | 4383.85    | 270.38    | 40°04'19.635"N | 104°44'44.480"W | 0.00          |             |
| 13117.00† | 90.332          | 0.279       | 7616.04              | 4485.12        | 4483.85    | 270.87    | 40°04'20.623"N | 104°44'44.474"W | 0.00          |             |
| 13217.00† | 90.332          | 0.279       | 7615.46              | 4585.12        | 4583.85    | 271.36    | 40°04'21.612"N | 104°44'44.467"W | 0.00          |             |
| 13297.19  | 90.332          | 0.279       | 7615.00 <sup>1</sup> | 4665.31        | 4664.04    | 271.75    | 40°04'22.404"N | 104°44'44.462"W | 0.00          | TOTAL DEPTH |

### HOLE & CASING SECTIONS -

Ref Wellbore: GRISWOLD 3C-11HZ PWB

Ref Wellpath: GRISWOLD 3C-11HZ (PERMIT REV-1) PWP

| 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        | 17.00         | 1641.00     | 1624.00       | 17.00          | 1641.00      | 0.00           | 0.00           | 0.00         | 0.00         |
| 9.625in Casing Surface  | 17.00         | 1641.00     | 1624.00       | 17.00          | 1641.00      | 0.00           | 0.00           | 0.00         | 0.00         |
| 8.75in Open Hole        | 1641.00       | 8121.55     | 6480.55       | 1641.00        | 7645.00      | 0.00           | 0.00           | -511.45      | 246.54       |
| 7in Casing Intermediate | 17.00         | 8121.55     | 8104.55       | 17.00          | 7645.00      | 0.00           | 0.00           | -511.45      | 246.54       |
| 6.125in Open Hole       | 8121.55       | 13297.19    | 5175.64       | 7645.00        | 7615.00      | -511.45        | 246.54         | 4664.04      | 271.75       |
| 4.5in Casing Production | 17.00         | 13297.19    | 13280.19      | 17.00          | 7615.00      | 0.00           | 0.00           | 4664.04      | 271.75       |

| REFERENCE WELLPATH IDENTIFICATION |                                 |          |   |
|-----------------------------------|---------------------------------|----------|---|
| Operator                          | KERR-MCGEE OIL & GAS ONSHORE LP | Slot     | SLOT#15 GRISWOLD 3C-11HZ (560'FSL & 1998'FWL, SEC.11) |
| Area                              | COLORADO                        | Well     | GRISWOLD 3C-11HZ                                      |
| Field                             | WELD COUNTY (KERR MCGEE)        | Wellbore | GRISWOLD 3C-11HZ PWB                                  |
| Facility                          | SEC.11-T1N-R66W                 |          |   |

| TARGETS  |            |             |               |              |                      |                       |                |                 |         |
|--|------------|-------------|---------------|--------------|----------------------|-----------------------|----------------|-----------------|---------|
| Name   | MD<br>[ft] | TVD<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[US ft] | Grid North<br>[US ft] | Latitude       | Longitude       | Shape   |
| SEC.11-T1N-R66W SECTION LINES                                      |            | 17.00       | -6.55         | 1262.43      | 3212126.21           | 1265634.89            | 40°03'36.248"N | 104°44'31.722"W | polygon |
| 1) GRISWOLD 3C-11HZ BHL ON PLAT REV-1 (100'FNL & 2247'FWL, SEC.11) | 13297.19   | 7615.00     | 4664.04       | 271.75       | 3211095.92           | 1270296.71            | 40°04'22.404"N | 104°44'44.462"W | point   |

| SURVEY PROGRAM - Ref Wellbore: GRISWOLD 3C-11HZ PWB |                |                              |                  | Ref Wellpath: GRISWOLD 3C-11HZ (PERMIT REV-1) PWP |                      |
|---|----------------|------------------------------|------------------|---|----------------------|
| Start MD<br>[ft]                                    | End MD<br>[ft] | Positional Uncertainty Model | Log Name/Comment |   | Wellbore             |
| 17.00   | 13297.19       | NaviTrak (MAGCORR,IFR)       |                  |   | GRISWOLD 3C-11HZ PWB |

| REFERENCE WELLPATH IDENTIFICATION |                                 |          |   |  |
|-----------------------------------|---------------------------------|----------|---|--|
| Operator                          | KERR-MCGEE OIL & GAS ONSHORE LP | Slot     | SLOT#15 GRISWOLD 3C-11HZ (560'FSL & 1998'FWL, SEC.11) |  |
| Area                              | COLORADO                        | Well     | GRISWOLD 3C-11HZ                                      |  |
| Field                             | WELD COUNTY (KERR MCGEE)        | Wellbore | GRISWOLD 3C-11HZ PWB                                  |  |
| Facility                          | SEC.11-T1N-R66W                 |          |   |  |

| WELLPATH COMMENTS |                    |                |             |                           |
|-------------------|--------------------|----------------|-------------|---------------------------|
| MD<br>[ft]        | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Comment                   |
| 907.00            | 0.000              | 167.370        | 907.00      | BASE FOX HILLS            |
| 1641.00           | 0.000              | 167.370        | 1641.00     | SURFACE CSG SETTING DEPTH |
| 4505.46           | 16.000             | 167.370        | 4419.00     | PARKMAN                   |
| 4813.39           | 16.000             | 167.370        | 4715.00     | SUSSEX                    |
| 7406.55           | 18.832             | 0.279          | 7257.00     | SHARON SPRINGS            |
| 7446.14           | 22.791             | 0.279          | 7294.00     | NIOBRARA                  |
| 7568.61           | 35.038             | 0.279          | 7401.00     | NIOBRARA B                |
| 7651.24           | 43.300             | 0.279          | 7465.00     | NIOBRARA C                |
| 7916.90           | 69.867             | 0.279          | 7610.00     | FORT HAYS                 |
| 8010.97           | 79.274             | 0.279          | 7635.00     | CODELL                    |

| DESIGN COMMENTS |                    |                |             |                       |
|-----------------|--------------------|----------------|-------------|-----------------------|
| MD<br>[ft]      | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Comment               |
| 17.00           | 0.000              | 167.370        | 17.00       | TIE ON                |
| 1741.00         | 0.000              | 167.370        | 1741.00     | BEGIN NUDGE           |
| 2541.00         | 16.000             | 167.370        | 2530.64     | END NUDGE             |
| 5779.82         | 16.000             | 167.370        | 5644.00     | BEGIN DROP            |
| 6579.82         | 0.000              | 0.279          | 6433.64     | END DROP              |
| 7218.23         | 0.000              | 0.279          | 7072.05     | KOP, BUILD @ 10°/100' |
| 8121.55         | 90.332             | 0.279          | 7645.00     | LANDING POINT         |
| 13297.19        | 90.332             | 0.279          | 7615.00     | TOTAL DEPTH           |