



**Scientific
Drilling**

Survey Certification

7327 West Barton Road
Casper, WY 82604
(307)-472-6621 Fax (307) 472-5439

| | |
|----------------------------|--------------------------------|
| Operator | <u>Williams Production Co.</u> |
| Well Name & No. | <u>RWF 32-35</u> |
| County & State | <u>Garfield County, CO</u> |
| SDI Job No. | <u>42DEFK1006645</u> |
| Rig | <u>H&P 280</u> |
| Survey Date | <u>23-Jun-10</u> |

I, Julie Cruse, having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 0 feet to a measured depth of 7710 feet is true and correct as determined from all available records.

Julie Cruse
Signature

30-Jun-10
Date

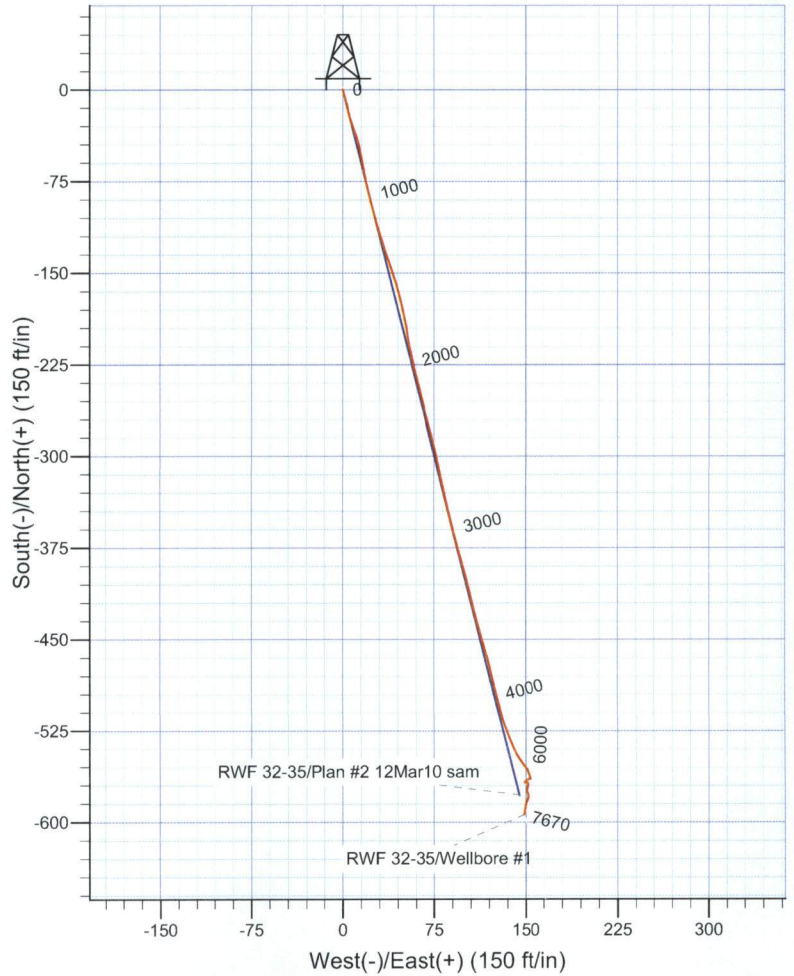
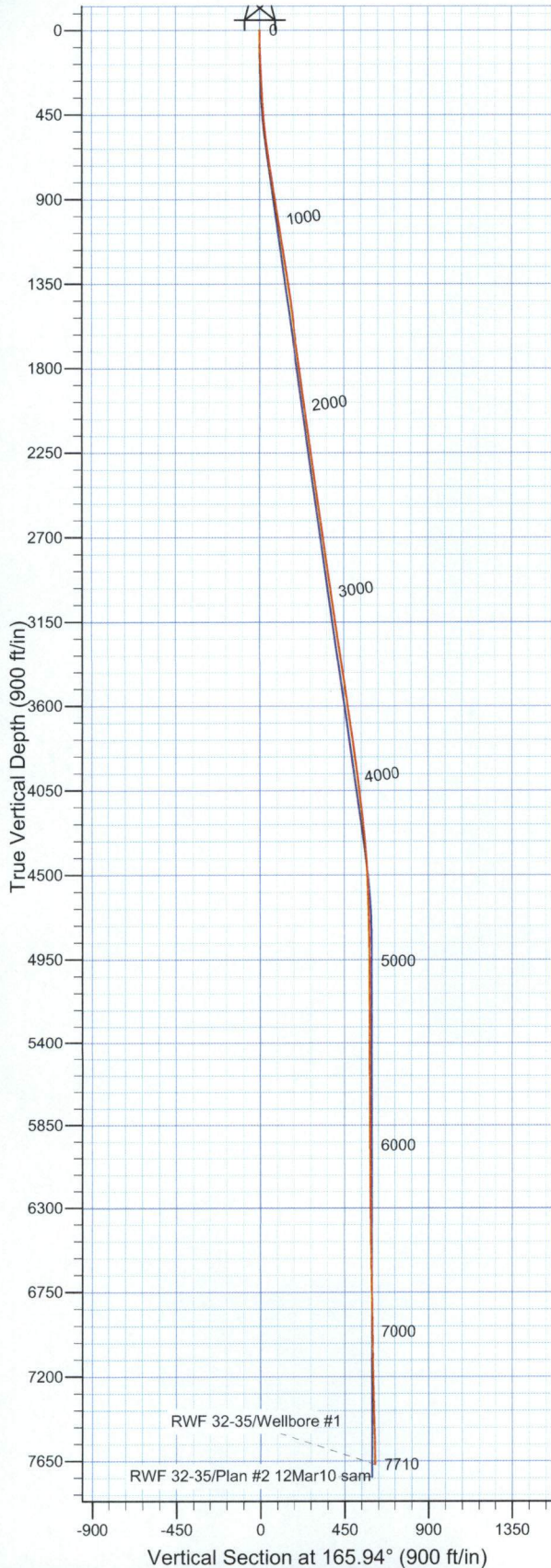
Julie Cruse
Rockies Region Engineer
Scientific Drilling - Rocky Mountain District



Scientific Drilling
Rocky Mountain Operations

Project: Garfield County, CO NAD83
Site: RMV 22-35 Pad
Well: RWF 32-35
Wellbore: Wellbore #1
Design: Wellbore #1

Williams Production Co.



WELL DETAILS: RWF 32-35

Ground Level: WELL @ 5467.01ft (H&P 272 (24' KB) kjs)
 Northing 0.00 Easting 0.00 1610906.95 2335903.57 Latitude 39° 29' 13.561 N Longitude 107° 51' 11.680 W A9

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well RWF 32-35 - Slot A9, True North
 Vertical (TVD) Reference: WELL @ 5467.01ft (H&P 272 (24' KB) kjs)
 Section (VS) Reference: Slot - A9(0.00N, 0.00E)
 Measured Depth Reference: WELL @ 5467.01ft (H&P 272 (24' KB) kjs)
 Calculation Method: Minimum Curvature
 Local North: True
 Location:

PROJECT DETAILS: Garfield County, CO NAD83

Design: Wellbore #1 (RWF 32-35/Wellbore #1)

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Central Zone

Created By: Julie Cruse Date: 2010-06-30



Scientific Drilling
Rocky Mountain Operations

Williams Production Co.

Garfield County, CO NAD83

RMV 22-35 Pad

RWF 32-35 - Slot A9

Wellbore #1

Design: Wellbore #1

Standard Survey Report

30 June, 2010



| | | | |
|------------------|---------------------------|-------------------------------------|---|
| Company: | Williams Production Co. | Local Co-ordinate Reference: | Well RWF 32-35 - Slot A9 |
| Project: | Garfield County, CO NAD83 | TVD Reference: | WELL @ 5467.01ft (H&P 272 (24' KB) kjs) |
| Site: | RMV 22-35 Pad | MD Reference: | WELL @ 5467.01ft (H&P 272 (24' KB) kjs) |
| Well: | RWF 32-35 | North Reference: | True |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | EDM 2003.16 Multi User Db |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | Garfield County, CO NAD83 | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Central Zone | | |

| | | | | | |
|------------------------------|---------------|---------------------|-----------------|--------------------------|-------------------|
| Site | RMV 22-35 Pad | | | | |
| Site Position: | | Northing: | 1,610,944.40 ft | Latitude: | 39° 29' 13.931 N |
| From: | Map | Easting: | 2,335,901.70 ft | Longitude: | 107° 51' 11.717 W |
| Position Uncertainty: | 0.00 ft | Slot Radius: | in | Grid Convergence: | -1.48 ° |

| | | | | | | |
|-----------------------------|---------------------|---------|----------------------------|-----------------|----------------------|-------------------|
| Well | RWF 32-35 - Slot A9 | | | | | |
| Well Position | +N-S | 0.00 ft | Northing: | 1,610,906.95 ft | Latitude: | 39° 29' 13.561 N |
| | +E-W | 0.00 ft | Easting: | 2,335,903.57 ft | Longitude: | 107° 51' 11.680 W |
| Position Uncertainty | | 0.00 ft | Wellhead Elevation: | ft | Ground Level: | 5,443.01 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 2010-06-20 | 10.41 | 65.79 | 52,368 |

| | | | | | |
|--------------------------|------------------------------|------------------|------------------|----------------------|------|
| Design | Wellbore #1 | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (ft) | +N-S (ft) | +E-W (ft) | Direction (°) | |
| | 0.00 | 0.00 | 0.00 | 165.94 | |

| | | | | | |
|-----------------------|----------------|--|------------------|------------------------------------|--|
| Survey Program | Date | 2010-06-30 | | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 80.00 | 632.00 | Survey #1 - Surface Gyro (Wellbore #1) | Standard Keeper | Standard Wireline Keeper ver 1.0.2 | |
| 708.00 | 1,111.00 | Survey #2 - Surface MWD (Wellbore #1) | MWD SDI | MWD - Standard ver 1.0.1 | |
| 1,260.00 | 7,710.00 | Survey #3 - Production (Wellbore #1) | MWD SDI | MWD - Standard ver 1.0.1 | |

| | | | | | | | | | | |
|----------------------------|------------------------|--------------------|----------------------------|------------------|------------------|------------------------------|------------------------------|-----------------------------|----------------------------|--------|
| Survey | | | | | | | | | | |
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N-S (ft) | +E-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 80.00 | 0.79 | 160.22 | 80.00 | -0.52 | 0.19 | 0.55 | 0.99 | 0.99 | 0.00 | 0.00 |
| 173.00 | 2.82 | 167.78 | 172.95 | -3.36 | 0.89 | 3.47 | 2.19 | 2.18 | 8.13 | 8.13 |
| 265.00 | 2.82 | 161.89 | 264.84 | -7.72 | 2.07 | 7.99 | 0.31 | 0.00 | -6.40 | -6.40 |
| 357.00 | 3.52 | 166.29 | 356.69 | -12.62 | 3.44 | 13.07 | 0.80 | 0.76 | 4.78 | 4.78 |
| 449.00 | 4.13 | 170.33 | 448.49 | -18.63 | 4.67 | 19.20 | 0.72 | 0.66 | 4.39 | 4.39 |
| 540.00 | 6.51 | 160.40 | 539.09 | -26.72 | 6.95 | 27.61 | 2.79 | 2.62 | -10.91 | -10.91 |
| 632.00 | 8.36 | 160.58 | 630.31 | -37.94 | 10.92 | 39.46 | 2.01 | 2.01 | 0.20 | 0.20 |
| Last Gyro Survey | | | | | | | | | | |
| 708.00 | 8.10 | 168.82 | 705.53 | -48.40 | 13.80 | 50.30 | 1.59 | -0.34 | 10.84 | 10.84 |
| First MWD Survey | | | | | | | | | | |

| | | | |
|------------------|---------------------------|-------------------------------------|---|
| Company: | Williams Production Co. | Local Co-ordinate Reference: | Well RWF 32-35 - Slot A9 |
| Project: | Garfield County, CO NAD83 | TVD Reference: | WELL @ 5467.01ft (H&P 272 (24' KB) kjs) |
| Site: | RMV 22-35 Pad | MD Reference: | WELL @ 5467.01ft (H&P 272 (24' KB) kjs) |
| Well: | RWF 32-35 | North Reference: | True |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | EDM 2003.16 Multi User Db |

Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 799.00 | 8.90 | 169.89 | 795.53 | -61.62 | 16.28 | 63.73 | 0.90 | 0.88 | 1.18 |
| 891.00 | 9.41 | 168.26 | 886.36 | -75.99 | 19.06 | 78.35 | 0.62 | 0.55 | -1.77 |
| 982.00 | 9.53 | 165.29 | 976.12 | -90.56 | 22.48 | 93.31 | 0.55 | 0.13 | -3.26 |
| 1,074.00 | 8.81 | 164.33 | 1,066.95 | -104.71 | 26.32 | 107.97 | 0.80 | -0.78 | -1.04 |
| 1,111.00 | 8.46 | 165.46 | 1,103.53 | -110.07 | 27.77 | 113.52 | 1.05 | -0.95 | 3.05 |
| Last Survey in 13 1/2" Hole | | | | | | | | | |
| 1,260.00 | 8.79 | 160.70 | 1,250.84 | -131.43 | 34.28 | 135.82 | 0.53 | 0.22 | -3.19 |
| First Survey in 7 7/8" Hole | | | | | | | | | |
| 1,354.00 | 8.88 | 161.41 | 1,343.73 | -145.08 | 38.97 | 150.21 | 0.15 | 0.10 | 0.76 |
| 1,449.00 | 8.09 | 161.76 | 1,437.69 | -158.38 | 43.40 | 164.18 | 0.83 | -0.83 | 0.37 |
| 1,543.00 | 7.56 | 167.73 | 1,530.81 | -170.71 | 46.79 | 176.96 | 1.03 | -0.56 | 6.35 |
| 1,637.00 | 7.40 | 166.40 | 1,624.01 | -182.63 | 49.52 | 189.19 | 0.25 | -0.17 | -1.41 |
| 1,732.00 | 7.83 | 171.07 | 1,718.18 | -194.97 | 51.97 | 201.76 | 0.79 | 0.45 | 4.92 |
| 1,826.00 | 7.90 | 171.83 | 1,811.29 | -207.69 | 53.88 | 214.56 | 0.13 | 0.07 | 0.81 |
| 1,921.00 | 7.92 | 164.94 | 1,905.39 | -220.48 | 56.51 | 227.60 | 1.00 | 0.02 | -7.25 |
| 2,015.00 | 8.09 | 165.71 | 1,998.47 | -233.14 | 59.82 | 240.69 | 0.21 | 0.18 | 0.82 |
| 2,109.00 | 7.91 | 166.77 | 2,091.56 | -245.84 | 62.93 | 253.77 | 0.25 | -0.19 | 1.13 |
| 2,204.00 | 7.71 | 164.96 | 2,185.68 | -258.36 | 66.08 | 266.68 | 0.33 | -0.21 | -1.91 |
| 2,298.00 | 8.13 | 164.74 | 2,278.78 | -270.86 | 69.47 | 279.63 | 0.45 | 0.45 | -0.23 |
| 2,393.00 | 7.85 | 164.93 | 2,372.86 | -283.61 | 72.92 | 292.83 | 0.30 | -0.29 | 0.20 |
| 2,487.00 | 7.93 | 167.77 | 2,465.97 | -296.14 | 75.97 | 305.73 | 0.42 | 0.09 | 3.02 |
| 2,582.00 | 8.05 | 168.53 | 2,560.05 | -309.07 | 78.68 | 318.92 | 0.17 | 0.13 | 0.80 |
| 2,676.00 | 7.63 | 166.33 | 2,653.17 | -321.58 | 81.46 | 331.74 | 0.55 | -0.45 | -2.34 |
| 2,770.00 | 8.44 | 168.96 | 2,746.25 | -334.42 | 84.26 | 344.87 | 0.95 | 0.86 | 2.80 |
| 2,865.00 | 8.79 | 165.36 | 2,840.17 | -348.28 | 87.43 | 359.09 | 0.68 | 0.37 | -3.79 |
| 2,959.00 | 8.62 | 165.54 | 2,933.09 | -362.05 | 91.00 | 373.31 | 0.18 | -0.18 | 0.19 |
| 3,054.00 | 8.51 | 165.53 | 3,027.03 | -375.75 | 94.54 | 387.46 | 0.12 | -0.12 | -0.01 |
| 3,148.00 | 8.00 | 163.34 | 3,120.06 | -388.75 | 98.15 | 400.95 | 0.64 | -0.54 | -2.33 |
| 3,242.00 | 8.53 | 166.59 | 3,213.08 | -401.80 | 101.64 | 414.46 | 0.75 | 0.56 | 3.46 |
| 3,337.00 | 8.37 | 166.41 | 3,307.05 | -415.38 | 104.90 | 428.42 | 0.17 | -0.17 | -0.19 |
| 3,431.00 | 8.34 | 164.68 | 3,400.05 | -428.60 | 108.31 | 442.07 | 0.27 | -0.03 | -1.84 |
| 3,525.00 | 8.32 | 165.98 | 3,493.06 | -441.77 | 111.76 | 455.69 | 0.20 | -0.02 | 1.38 |
| 3,620.00 | 7.89 | 161.89 | 3,587.11 | -454.64 | 115.45 | 469.07 | 0.76 | -0.45 | -4.31 |
| 3,714.00 | 8.27 | 166.15 | 3,680.18 | -467.34 | 119.07 | 482.26 | 0.75 | 0.40 | 4.53 |
| 3,808.00 | 8.00 | 166.33 | 3,773.24 | -480.26 | 122.24 | 495.57 | 0.29 | -0.29 | 0.19 |
| 3,903.00 | 7.59 | 166.62 | 3,867.36 | -492.78 | 125.25 | 508.45 | 0.43 | -0.43 | 0.31 |
| 3,997.00 | 7.39 | 165.71 | 3,960.56 | -504.68 | 128.18 | 520.70 | 0.25 | -0.21 | -0.97 |
| 4,091.00 | 7.03 | 163.69 | 4,053.81 | -516.06 | 131.29 | 532.50 | 0.47 | -0.38 | -2.15 |
| 4,186.00 | 6.42 | 158.07 | 4,148.16 | -526.57 | 134.90 | 543.57 | 0.94 | -0.64 | -5.92 |
| 4,280.00 | 6.27 | 157.91 | 4,241.58 | -536.20 | 138.80 | 553.85 | 0.16 | -0.16 | -0.17 |
| 4,375.00 | 5.19 | 150.95 | 4,336.11 | -544.76 | 142.83 | 563.14 | 1.35 | -1.14 | -7.33 |
| 4,469.00 | 3.87 | 147.08 | 4,429.81 | -551.14 | 146.62 | 570.25 | 1.44 | -1.40 | -4.12 |
| 4,564.00 | 2.31 | 133.36 | 4,524.67 | -555.15 | 149.76 | 574.90 | 1.81 | -1.64 | -14.44 |
| 4,658.00 | 1.71 | 158.17 | 4,618.62 | -557.75 | 151.66 | 577.88 | 1.11 | -0.64 | 26.39 |
| 4,752.00 | 1.72 | 164.38 | 4,712.57 | -560.41 | 152.56 | 580.68 | 0.20 | 0.01 | 6.61 |
| 4,847.00 | 0.96 | 160.82 | 4,807.55 | -562.54 | 153.20 | 582.90 | 0.80 | -0.80 | -3.75 |
| 4,941.00 | 1.12 | 157.46 | 4,901.53 | -564.13 | 153.81 | 584.60 | 0.18 | 0.17 | -3.57 |
| 5,035.00 | 0.44 | 275.05 | 4,995.53 | -564.94 | 153.81 | 585.39 | 1.47 | -0.72 | 125.10 |
| 5,130.00 | 0.37 | 271.96 | 5,090.52 | -564.90 | 153.14 | 585.18 | 0.08 | -0.07 | -3.25 |
| 5,224.00 | 0.35 | 261.51 | 5,184.52 | -564.93 | 152.55 | 585.07 | 0.07 | -0.02 | -11.12 |
| 5,318.00 | 0.18 | 234.18 | 5,278.52 | -565.06 | 152.15 | 585.10 | 0.22 | -0.18 | -29.07 |
| 5,413.00 | 0.09 | 239.45 | 5,373.52 | -565.19 | 151.96 | 585.17 | 0.10 | -0.09 | 5.55 |
| 5,507.00 | 0.24 | 231.72 | 5,467.52 | -565.35 | 151.74 | 585.28 | 0.16 | 0.16 | -8.22 |
| 5,601.00 | 0.45 | 231.04 | 5,561.52 | -565.70 | 151.30 | 585.51 | 0.22 | 0.22 | -0.72 |

| | | | |
|------------------|---------------------------|-------------------------------------|---|
| Company: | Williams Production Co. | Local Co-ordinate Reference: | Well RWF 32-35 - Slot A9 |
| Project: | Garfield County, CO NAD83 | TVD Reference: | WELL @ 5467.01ft (H&P 272 (24' KB) kjs) |
| Site: | RMV 22-35 Pad | MD Reference: | WELL @ 5467.01ft (H&P 272 (24' KB) kjs) |
| Well: | RWF 32-35 | North Reference: | True |
| Wellbore: | Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Wellbore #1 | Database: | EDM 2003.16 Multi User Db |

Survey

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|-------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 5,696.00 | 0.53 | 222.67 | 5,656.51 | -566.26 | 150.71 | 585.91 | 0.11 | 0.08 | -8.81 |
| 5,790.00 | 0.62 | 244.46 | 5,750.51 | -566.80 | 149.96 | 586.25 | 0.25 | 0.10 | 23.18 |
| 5,885.00 | 0.68 | 211.89 | 5,845.50 | -567.50 | 149.20 | 586.74 | 0.39 | 0.06 | -34.28 |
| 5,979.00 | 0.53 | 83.45 | 5,939.50 | -567.92 | 149.34 | 587.19 | 1.16 | -0.16 | -136.64 |
| 6,073.00 | 0.62 | 96.45 | 6,033.50 | -567.93 | 150.27 | 587.42 | 0.17 | 0.10 | 13.83 |
| 6,168.00 | 0.44 | 95.58 | 6,128.49 | -568.02 | 151.15 | 587.73 | 0.19 | -0.19 | -0.92 |
| 6,262.00 | 0.44 | 141.89 | 6,222.49 | -568.34 | 151.73 | 588.18 | 0.37 | 0.00 | 49.27 |
| 6,357.00 | 0.70 | 176.35 | 6,317.49 | -569.21 | 151.99 | 589.08 | 0.44 | 0.27 | 36.27 |
| 6,451.00 | 0.85 | 196.92 | 6,411.48 | -570.45 | 151.82 | 590.24 | 0.33 | 0.16 | 21.88 |
| 6,545.00 | 1.23 | 188.65 | 6,505.46 | -572.11 | 151.47 | 591.77 | 0.43 | 0.40 | -8.80 |
| 6,640.00 | 1.23 | 193.13 | 6,600.44 | -574.11 | 151.08 | 593.62 | 0.10 | 0.00 | 4.72 |
| 6,734.00 | 0.53 | 143.04 | 6,694.43 | -575.44 | 151.12 | 594.92 | 1.04 | -0.74 | -53.29 |
| 6,828.00 | 0.75 | 153.87 | 6,788.42 | -576.34 | 151.65 | 595.92 | 0.27 | 0.23 | 11.52 |
| 6,923.00 | 0.88 | 171.34 | 6,883.41 | -577.62 | 152.03 | 597.25 | 0.29 | 0.14 | 18.39 |
| 7,017.00 | 0.77 | 171.26 | 6,977.40 | -578.96 | 152.24 | 598.60 | 0.12 | -0.12 | -0.09 |
| 7,111.00 | 1.06 | 197.18 | 7,071.39 | -580.42 | 152.08 | 599.97 | 0.53 | 0.31 | 27.57 |
| 7,206.00 | 1.22 | 205.02 | 7,166.37 | -582.17 | 151.39 | 601.51 | 0.23 | 0.17 | 8.25 |
| 7,300.00 | 1.32 | 198.50 | 7,260.35 | -584.11 | 150.62 | 603.20 | 0.19 | 0.11 | -6.94 |
| 7,394.00 | 1.49 | 194.34 | 7,354.32 | -586.32 | 149.98 | 605.19 | 0.21 | 0.18 | -4.43 |
| 7,489.00 | 1.41 | 183.64 | 7,449.29 | -588.68 | 149.60 | 607.39 | 0.30 | -0.08 | -11.26 |
| 7,583.00 | 1.32 | 185.14 | 7,543.27 | -590.91 | 149.43 | 609.51 | 0.10 | -0.10 | 1.60 |
| 7,653.00 | 1.49 | 193.84 | 7,613.24 | -592.60 | 149.14 | 611.08 | 0.39 | 0.24 | 12.43 |
| Last SDI Survey | | | | | | | | | |
| 7,710.00 | 1.49 | 193.84 | 7,670.23 | -594.04 | 148.78 | 612.39 | 0.00 | 0.00 | 0.00 |
| Projection to TD | | | | | | | | | |

Targets

| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
|--|---------------|--------------|----------|------------|------------|---------------|--------------|-----------------|------------------|
| Top Gas (25' Radius) RI | 0.00 | 0.00 | 5,185.01 | -577.90 | 144.64 | 1,610,325.50 | 2,336,033.20 | 39° 29' 7.849 N | 107° 51' 9.836 W |
| - hit/miss target | | | | | | | | | |
| - Shape | | | | | | | | | |
| - actual wellpath misses target center by 15.18ft at 5224.54ft MD (5185.06 TVD, -564.93 N, 152.55 E) | | | | | | | | | |
| - Circle (radius 25.00) | | | | | | | | | |

Checked By: _____ Approved By: _____ Date: _____