

# Energen Resources Corporation

Field: Carracas Canyon

Site: Carracas 34 A-7

Well: Carracas 34 A-7

Wellpath: Original Hole

Survey: Pathfinder MWD Survey

## SITE DETAILS

Carracas 34 A-7  
Rio Arriba County, New Mexico  
1980' FNL 2620' FEL Sec. 34; T32N; R35W

Water Depth: 0.00  
Positional Uncertainty: 0.00  
Convergence: 0.29

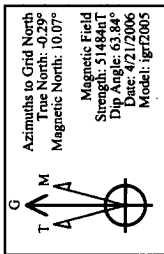
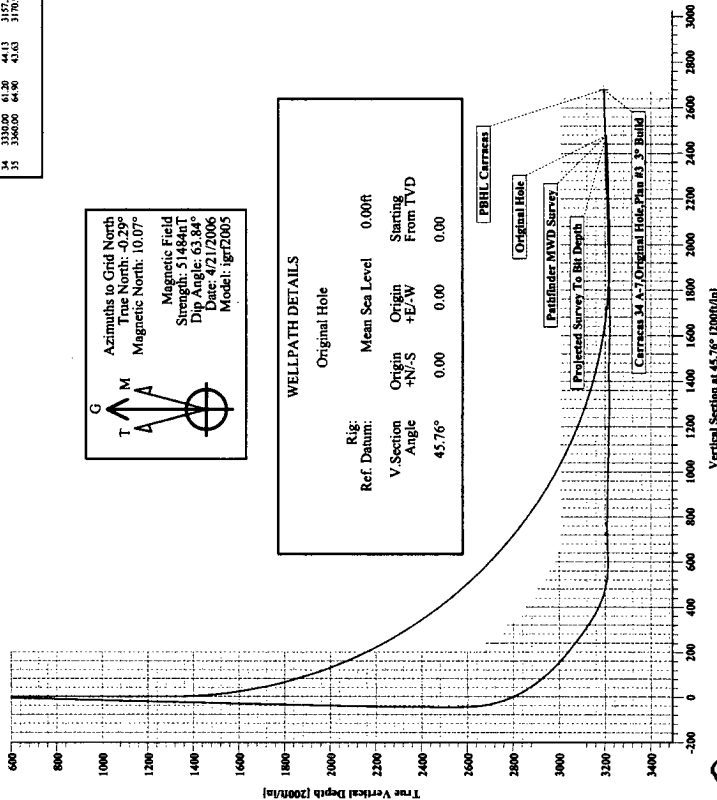
## COMPANY DETAILS

Energen Resources Corporation  
2198 Bloomfield Hwy  
Farmington, NM 87401

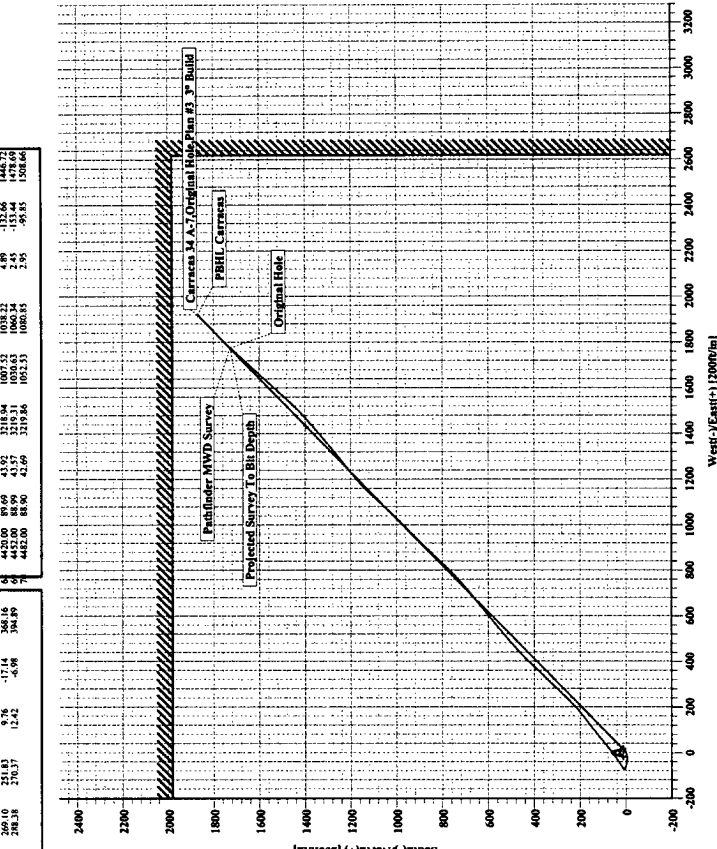
Calculation Method: Minimum Curvature  
Error System: Systematic Ellipse  
Error Surface: Elliptical Conic  
Warning Method: Error Ratio

## ANNOTATIONS

No. TVD MD Annotation  
1 1306.60 1307.00 KOP @ 1307 MD 1307 TVD  
2 1306.60 1307.00 Start Of 3" / 100' Build  
3 3219.46 4364.00 End Of Build @ 91.68' Inc  
4 3219.46 4364.00 364' MD 3217 TVD  
5 3217.89 5454.00 Projected Survey To Bit Depth

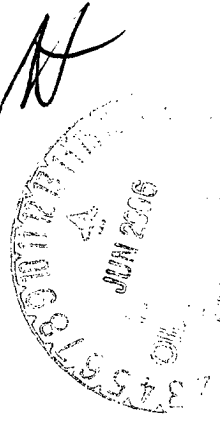


| WELLPATH DETAILS |                |          |  |
|------------------|----------------|----------|--|
| Original Hole    |                |          |  |
| Rig:             | Mean Sea Level | 0.00ft   |  |
| Ref Datum:       | Origin         | Starting |  |
| V Section        | Angle          | From TVD |  |
| 45.76°           | 0.00           | 0.00     |  |



30-039-29342  
Surface: 1480/N 2620/E  
BTL: 1649/N 2310/E MD 3422  
2: 253/N 842/E TVD 3194  
MD: 5454 TVD: 3207

PATHFINDER



| Survey: Pathfinder MWD Survey (Carracas 34 A-7 Original Hole) |         |       |        |         |       |        |       |        |        |      |
|---------------------------------------------------------------|---------|-------|--------|---------|-------|--------|-------|--------|--------|------|
| No                                                            | MD      | Inc   | Az     | TVD     | -N/S  | -E/W   | Deg   | True   | Time   | Rate |
| 1                                                             | 420.00  | 0.88  | 251.80 | 419.80  | -0.00 | -1.08  | 0.31  | 0.00   | 0.00   | 0.00 |
| 2                                                             | 420.00  | 0.88  | 251.80 | 419.80  | -0.00 | -1.08  | 0.31  | 0.00   | 0.00   | 0.00 |
| 3                                                             | 420.00  | 0.88  | 251.80 | 419.80  | -0.00 | -1.08  | 0.31  | 0.00   | 0.00   | 0.00 |
| 4                                                             | 420.00  | 0.88  | 251.80 | 419.80  | -0.00 | -1.08  | 0.31  | 0.00   | 0.00   | 0.00 |
| 5                                                             | 420.00  | 0.88  | 251.80 | 419.80  | -0.00 | -1.08  | 0.31  | 0.00   | 0.00   | 0.00 |
| 6                                                             | 2064.00 | 2.37  | 253.09 | 2064.98 | 0.14  | -57.80 | 0.01  | 168.81 | 41.37  | 0.00 |
| 7                                                             | 2174.00 | 1.85  | 250.23 | 2174.78 | 4.09  | -48.39 | 0.26  | 137.84 | 48.14  | 0.00 |
| 8                                                             | 2257.00 | 1.49  | 251.10 | 2257.70 | 7.32  | -72.37 | 0.27  | 115.79 | 48.81  | 0.00 |
| 9                                                             | 2357.00 | 1.49  | 251.10 | 2357.70 | 7.32  | -72.37 | 0.27  | 115.79 | 48.81  | 0.00 |
| 10                                                            | 2588.00 | 1.41  | 258.82 | 2588.70 | 7.89  | -72.66 | 0.34  | 115.79 | 48.81  | 0.00 |
| 11                                                            | 2618.00 | 3.87  | 49.79  | 2618.66 | 9.02  | -72.00 | 9.62  | 60.42  | 45.29  | 0.00 |
| 12                                                            | 2618.00 | 3.87  | 49.79  | 2618.66 | 9.02  | -72.00 | 9.62  | 60.42  | 45.29  | 0.00 |
| 13                                                            | 2681.00 | 10.20 | 54.52  | 2681.32 | 13.72 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 14                                                            | 2711.00 | 13.63 | 57.65  | 2711.32 | 17.07 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 15                                                            | 2743.00 | 16.06 | 57.65  | 2743.32 | 20.41 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 16                                                            | 2822.00 | 24.55 | 56.35  | 2822.32 | 28.89 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 17                                                            | 2853.00 | 28.14 | 53.85  | 2853.32 | 33.04 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 18                                                            | 2853.00 | 28.14 | 53.85  | 2853.32 | 33.04 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 19                                                            | 2914.00 | 37.72 | 51.03  | 2914.46 | 40.12 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 20                                                            | 2954.00 | 34.73 | 52.41  | 2954.46 | 39.13 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 21                                                            | 2974.00 | 37.72 | 51.03  | 2974.46 | 40.12 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 22                                                            | 3014.00 | 39.22 | 50.04  | 3014.46 | 41.62 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 23                                                            | 3014.00 | 39.22 | 50.04  | 3014.46 | 41.62 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 24                                                            | 3018.00 | 45.11 | 51.23  | 3018.46 | 45.11 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 25                                                            | 3069.00 | 48.89 | 51.77  | 3069.46 | 48.89 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 26                                                            | 3069.00 | 48.89 | 51.77  | 3069.46 | 48.89 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 27                                                            | 3143.00 | 52.76 | 52.14  | 3143.46 | 52.76 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 28                                                            | 3143.00 | 52.76 | 52.14  | 3143.46 | 52.76 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 29                                                            | 3174.00 | 52.41 | 52.58  | 3174.46 | 52.41 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 30                                                            | 3204.00 | 52.76 | 52.14  | 3204.46 | 52.76 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 31                                                            | 3252.00 | 56.31 | 46.36  | 3252.46 | 56.31 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 32                                                            | 3252.00 | 56.31 | 46.36  | 3252.46 | 56.31 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 33                                                            | 3258.00 | 58.31 | 45.18  | 3258.46 | 58.31 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 34                                                            | 3258.00 | 58.31 | 45.18  | 3258.46 | 58.31 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |
| 35                                                            | 3340.00 | 64.90 | 42.63  | 3340.46 | 64.90 | -60.07 | 11.46 | 6.44   | -31.49 | 0.00 |

# Pathfinder Energy

## Survey Report

|                                               |  |                                   |                                          |                |
|-----------------------------------------------|--|-----------------------------------|------------------------------------------|----------------|
| <b>Company:</b> Energen Resources Corporation |  | <b>Date:</b> 6/7/2006             | <b>Time:</b> 15:21:28                    | <b>Page:</b> 1 |
| <b>Field:</b> Carracas Canyon                 |  | <b>Co-ordinate(NE) Reference:</b> | <b>Well:</b> Carracas 34 A-7, Grid North |                |
| <b>Site:</b> Carracas 34 A-7                  |  | <b>Vertical (TVD) Reference:</b>  | <b>System:</b> Mean Sea Level            |                |
| <b>Well:</b> Carracas 34 A-7                  |  | <b>Section (VS) Reference:</b>    | <b>Well (0.00N,0.00E,45.76Azi)</b>       |                |
| <b>Wellpath:</b> Original Hole                |  | <b>Survey Calculation Method:</b> | <b>Minimum Curvature Db: Sybase</b>      |                |

|                                                          |                                           |
|----------------------------------------------------------|-------------------------------------------|
| <b>Field:</b> Carracas Canyon<br>Rio Arriba County, NM   |                                           |
| <b>Map System:</b> US State Plane Coordinate System 1927 | <b>Map Zone:</b> New Mexico, Western Zone |
| <b>Geo Datum:</b> NAD27 (Clarke 1866)                    | <b>Coordinate System:</b> Well Centre     |
| <b>Sys Datum:</b> Mean Sea Level                         | <b>Geomagnetic Model:</b> igrf2005        |

|                                                                                                        |                                   |
|--------------------------------------------------------------------------------------------------------|-----------------------------------|
| <b>Site:</b> Carracas 34 A-7<br>Rio Arriba County, New Mexico<br>1980' FNL 2620' FEL Sec.34; T32N; R5W |                                   |
| <b>Site Position:</b>                                                                                  | <b>Northing:</b> ft               |
| <b>From:</b> Lease Line                                                                                | <b>Easting:</b> ft                |
| <b>Position Uncertainty:</b> 0.00 ft                                                                   | <b>Latitude:</b>                  |
| <b>Ground Level:</b> 0.00 ft                                                                           | <b>Longitude:</b>                 |
|                                                                                                        | <b>North Reference:</b> Grid      |
|                                                                                                        | <b>Grid Convergence:</b> 0.29 deg |

|                                      |                                   |
|--------------------------------------|-----------------------------------|
| <b>Well:</b> Carracas 34 A-7         | <b>Slot Name:</b>                 |
| <b>Well Position:</b> +N/-S 0.00 ft  | <b>Latitude:</b> 36 56 19.111 N   |
| +E/-W 0.00 ft                        | <b>Longitude:</b> 107 20 57.666 W |
| <b>Position Uncertainty:</b> 0.00 ft |                                   |

|                                           |                                           |
|-------------------------------------------|-------------------------------------------|
| <b>Wellpath:</b> Original Hole            | <b>Drilled From:</b> Surface              |
| <b>Current Datum:</b> Mean Sea Level      | <b>Tie-on Depth:</b> 0.00 ft              |
| <b>Magnetic Data:</b> 4/21/2006           | <b>Above System Datum:</b> Mean Sea Level |
| <b>Field Strength:</b> 51484 nT           | <b>Declination:</b> 10.36 deg             |
| <b>Vertical Section:</b> Depth From (TVD) | <b>Mag Dip Angle:</b> 63.84 deg           |
| ft                                        | <b>+N/-S</b>                              |
|                                           | <b>+E/-W</b>                              |
|                                           | <b>Direction</b>                          |
|                                           | <b>deg</b>                                |
| 0.00                                      | 0.00                                      |
| 0.00                                      | 45.76                                     |

|                                      |                              |
|--------------------------------------|------------------------------|
| <b>Survey:</b> Pathfinder MWD Survey | <b>Start Date:</b> 6/7/2006  |
| <b>Company:</b> Pathfinder Energy    | <b>Engineer:</b>             |
| <b>Tool:</b>                         | <b>Tied-to:</b> From Surface |

| <b>Survey: Pathfinder MWD Survey</b> |             |             |           |             |             |          |                  |                    |                   |              |
|--------------------------------------|-------------|-------------|-----------|-------------|-------------|----------|------------------|--------------------|-------------------|--------------|
| MD<br>ft                             | Incl<br>deg | Azlm<br>deg | TVD<br>ft | +N/-S<br>ft | +E/-W<br>ft | VS<br>ft | DLS<br>deg/100ft | Build<br>deg/100ft | Turn<br>deg/100ft | Tool/Comment |
| 0.00                                 | 0.00        | 0.00        | 0.00      | 0.00        | 0.00        | 0.00     | 0.00             | 0.00               | 0.00              |              |
| 420.00                               | 0.88        | 252.90      | 419.98    | -0.95       | -3.08       | -2.87    | 0.21             | 0.21               | 0.00              |              |
| 858.00                               | 1.85        | 251.80      | 857.85    | -4.15       | -13.01      | -12.22   | 0.22             | 0.22               | -0.25             |              |
| 1291.00                              | 2.02        | 274.99      | 1290.61   | -5.66       | -27.26      | -23.48   | 0.18             | 0.04               | 5.36              |              |
| 1757.00                              | 2.46        | 282.66      | 1756.26   | -2.76       | -45.20      | -34.30   | 0.11             | 0.09               | 1.65              |              |
| 2066.00                              | 2.37        | 283.09      | 2064.98   | 0.14        | -57.89      | -41.37   | 0.03             | -0.03              | 0.14              |              |
| 2374.00                              | 1.85        | 300.23      | 2372.78   | 4.09        | -68.39      | -46.14   | 0.26             | -0.17              | 5.56              |              |
| 2527.00                              | 1.41        | 315.80      | 2525.71   | 6.68        | -71.83      | -46.80   | 0.41             | -0.29              | 10.18             |              |
| 2557.00                              | 1.49        | 315.10      | 2555.70   | 7.22        | -72.37      | -46.81   | 0.27             | 0.27               | -2.33             |              |
| 2588.00                              | 1.41        | 358.82      | 2586.70   | 7.89        | -72.66      | -46.55   | 3.49             | -0.26              | 141.03            |              |
| 2618.00                              | 3.87        | 40.79       | 2616.66   | 9.02        | -72.00      | -45.29   | 9.92             | 8.20               | 139.90            |              |
| 2649.00                              | 6.77        | 51.00       | 2647.53   | 10.97       | -69.90      | -42.43   | 9.80             | 9.35               | 32.94             |              |
| 2681.00                              | 10.20       | 56.52       | 2679.17   | 13.72       | -66.07      | -37.76   | 11.00            | 10.72              | 17.25             |              |
| 2711.00                              | 13.63       | 57.65       | 2708.52   | 17.07       | -60.87      | -31.69   | 11.46            | 11.43              | 3.77              |              |
| 2743.00                              | 17.06       | 57.67       | 2739.38   | 21.60       | -53.71      | -23.41   | 10.72            | 10.72              | 0.06              |              |
| 2773.00                              | 20.66       | 56.82       | 2767.76   | 26.86       | -45.56      | -13.91   | 12.03            | 12.00              | -2.83             |              |
| 2802.00                              | 24.53       | 56.20       | 2794.53   | 33.01       | -36.28      | -2.96    | 13.37            | 13.34              | -2.14             |              |
| 2833.00                              | 28.14       | 55.85       | 2822.31   | 40.69       | -24.87      | 10.57    | 11.66            | 11.65              | -1.13             |              |
| 2864.00                              | 31.74       | 55.36       | 2849.17   | 49.43       | -12.11      | 25.81    | 11.64            | 11.61              | -1.58             |              |
| 2894.00                              | 34.73       | 52.41       | 2874.26   | 59.13       | 1.16        | 42.08    | 11.33            | 9.97               | -9.83             |              |
| 2924.00                              | 37.72       | 51.03       | 2898.46   | 70.12       | 15.07       | 59.72    | 10.33            | 9.97               | -4.60             |              |
| 2955.00                              | 39.22       | 50.94       | 2922.73   | 82.26       | 30.05       | 78.92    | 4.84             | 4.84               | -0.29             |              |
| 2987.00                              | 41.77       | 50.73       | 2947.06   | 95.39       | 46.16       | 99.62    | 7.98             | 7.97               | -0.66             |              |
| 3018.00                              | 45.11       | 51.23       | 2969.57   | 108.80      | 62.72       | 120.84   | 10.83            | 10.77              | 1.61              |              |

# Pathfinder Energy

## Survey Report

Company: Energen Resources Corporation  
 Field: Carracas Canyon  
 Site: Carracas 34 A-7  
 Well: Carracas 34 A-7  
 Wellpath: Original Hole

Date: 6/7/2006 Time: 15:21:28 Page: 2  
 Co-ordinate(NE) Reference: Well: Carracas 34 A-7, Grid North  
 Vertical (TVD) Reference: System: Mean Sea Level  
 Section (VS) Reference: Well (0.00N,0.00E,45.76Azi)  
 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: Pathfinder MWD Survey

| MD<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | +N/-S<br>ft | +E/-W<br>ft | VS<br>ft | DLS<br>deg/100ft | Build<br>deg/100ft | Turn<br>deg/100ft | Tool/Comment |
|----------|-------------|-------------|-----------|-------------|-------------|----------|------------------|--------------------|-------------------|--------------|
| 3049.00  | 46.43       | 51.88       | 2991.19   | 122.61      | 80.12       | 142.94   | 4.52             | 4.26               | 2.10              |              |
| 3080.00  | 48.89       | 51.77       | 3012.07   | 136.77      | 98.13       | 165.72   | 7.94             | 7.94               | -0.35             |              |
| 3111.00  | 51.97       | 51.88       | 3031.81   | 151.54      | 116.91      | 189.48   | 9.94             | 9.94               | 0.35              |              |
| 3143.00  | 52.76       | 52.14       | 3051.35   | 167.14      | 136.88      | 214.67   | 2.55             | 2.47               | 0.81              |              |
| 3174.00  | 52.41       | 52.55       | 3070.19   | 182.18      | 156.38      | 239.13   | 1.54             | -1.13              | 1.32              |              |
| 3206.00  | 53.73       | 50.58       | 3089.42   | 198.08      | 176.41      | 264.58   | 6.42             | 4.12               | -6.16             |              |
| 3237.00  | 55.31       | 48.21       | 3107.41   | 214.51      | 195.57      | 289.77   | 8.05             | 5.10               | -7.65             |              |
| 3268.00  | 56.01       | 46.36       | 3124.90   | 231.88      | 214.37      | 315.35   | 5.42             | 2.26               | -5.97             |              |
| 3298.00  | 58.21       | 45.18       | 3141.19   | 249.45      | 232.42      | 340.54   | 8.04             | 7.33               | -3.93             |              |
| 3330.00  | 61.20       | 44.13       | 3157.33   | 269.10      | 251.83      | 368.16   | 9.76             | 9.34               | -3.28             |              |
| 3360.00  | 64.90       | 43.63       | 3170.92   | 288.38      | 270.37      | 394.89   | 12.42            | 12.33              | -1.67             |              |
| 3392.00  | 68.59       | 43.62       | 3183.56   | 309.66      | 290.65      | 424.26   | 11.53            | 11.53              | -0.03             |              |
| 3422.00  | 72.63       | 43.98       | 3193.51   | 330.08      | 310.23      | 452.54   | 13.51            | 13.47              | 1.20              |              |
| 3454.00  | 76.41       | 44.30       | 3202.05   | 352.20      | 331.70      | 483.36   | 11.85            | 11.81              | 1.00              |              |
| 3484.00  | 80.54       | 43.92       | 3208.05   | 373.30      | 352.16      | 512.74   | 13.82            | 13.77              | -1.27             |              |
| 3512.00  | 84.77       | 43.80       | 3211.62   | 393.32      | 371.40      | 540.48   | 15.11            | 15.11              | -0.43             |              |
| 3543.00  | 87.23       | 43.62       | 3213.79   | 415.68      | 392.76      | 571.39   | 7.96             | 7.94               | -0.58             |              |
| 3601.00  | 92.86       | 46.91       | 3213.74   | 456.48      | 433.94      | 629.35   | 11.24            | 9.71               | 5.67              |              |
| 3632.00  | 93.21       | 48.32       | 3212.10   | 477.34      | 456.81      | 660.29   | 4.68             | 1.13               | 4.55              |              |
| 3664.00  | 90.31       | 48.93       | 3211.12   | 498.48      | 480.81      | 692.23   | 9.26             | -9.06              | 1.91              |              |
| 3695.00  | 91.10       | 49.90       | 3210.74   | 518.65      | 504.35      | 723.17   | 4.04             | 2.55               | 3.13              |              |
| 3727.00  | 89.87       | 51.04       | 3210.46   | 539.01      | 529.03      | 755.06   | 5.24             | -3.84              | 3.56              |              |
| 3759.00  | 88.29       | 50.52       | 3210.98   | 559.24      | 553.81      | 786.93   | 5.20             | -4.94              | -1.62             |              |
| 3790.00  | 89.60       | 50.87       | 3211.55   | 578.88      | 577.80      | 817.81   | 4.37             | 4.23               | 1.13              |              |
| 3822.00  | 89.08       | 51.22       | 3211.92   | 598.99      | 602.68      | 849.67   | 1.96             | -1.62              | 1.09              |              |
| 3854.00  | 88.64       | 51.39       | 3212.55   | 619.00      | 627.65      | 881.51   | 1.47             | -1.37              | 0.53              |              |
| 3885.00  | 89.34       | 51.22       | 3213.10   | 638.37      | 651.84      | 912.36   | 2.32             | 2.26               | -0.55             |              |
| 3917.00  | 89.08       | 51.39       | 3213.54   | 658.38      | 676.81      | 944.21   | 0.97             | -0.81              | 0.53              |              |
| 3949.00  | 88.20       | 50.16       | 3214.30   | 678.61      | 701.59      | 976.08   | 4.73             | -2.75              | -3.84             |              |
| 3981.00  | 87.85       | 49.29       | 3215.40   | 699.28      | 725.99      | 1007.98  | 2.93             | -1.09              | -2.72             |              |
| 4012.00  | 88.37       | 48.85       | 3216.43   | 719.58      | 749.40      | 1038.91  | 2.20             | 1.68               | -1.42             |              |
| 4043.00  | 88.46       | 46.65       | 3217.28   | 740.41      | 772.34      | 1069.88  | 7.10             | 0.29               | -7.10             |              |
| 4073.00  | 90.13       | 45.68       | 3217.65   | 761.19      | 793.98      | 1099.88  | 6.44             | 5.57               | -3.23             |              |
| 4103.00  | 89.52       | 44.36       | 3217.75   | 782.39      | 815.20      | 1129.87  | 4.85             | -2.03              | -4.40             |              |
| 4135.00  | 88.99       | 44.01       | 3218.16   | 805.34      | 837.50      | 1161.86  | 1.98             | -1.66              | -1.09             |              |
| 4167.00  | 88.46       | 43.75       | 3218.87   | 828.40      | 859.67      | 1193.83  | 1.84             | -1.66              | -0.81             |              |
| 4199.00  | 88.46       | 44.19       | 3219.73   | 851.42      | 881.88      | 1225.81  | 1.37             | 0.00               | 1.37              |              |
| 4230.00  | 88.64       | 43.66       | 3220.52   | 873.74      | 903.38      | 1256.78  | 1.81             | 0.58               | -1.71             |              |
| 4261.00  | 89.34       | 43.75       | 3221.06   | 896.15      | 924.80      | 1287.76  | 2.28             | 2.26               | 0.29              |              |
| 4293.00  | 91.01       | 46.03       | 3220.97   | 918.81      | 947.38      | 1319.75  | 8.83             | 5.22               | 7.12              |              |
| 4325.00  | 91.28       | 46.65       | 3220.33   | 940.90      | 970.52      | 1351.74  | 2.11             | 0.84               | 1.94              |              |
| 4357.00  | 91.28       | 46.03       | 3219.61   | 962.99      | 993.67      | 1383.73  | 1.94             | 0.00               | -1.94             |              |
| 4388.00  | 90.75       | 45.07       | 3219.06   | 984.69      | 1015.79     | 1414.73  | 3.54             | -1.71              | -3.10             |              |
| 4420.00  | 89.69       | 43.92       | 3218.94   | 1007.52     | 1038.22     | 1446.72  | 4.89             | -3.31              | -3.59             |              |
| 4452.00  | 88.99       | 43.57       | 3219.31   | 1030.63     | 1060.34     | 1478.69  | 2.45             | -2.19              | -1.09             |              |
| 4482.00  | 88.90       | 42.69       | 3219.86   | 1052.53     | 1080.85     | 1508.66  | 2.95             | -0.30              | -2.93             |              |
| 4514.00  | 88.20       | 42.25       | 3220.67   | 1076.12     | 1102.45     | 1540.59  | 2.58             | -2.19              | -1.37             |              |
| 4546.00  | 87.14       | 41.99       | 3221.97   | 1099.84     | 1123.89     | 1572.50  | 3.41             | -3.31              | -0.81             |              |
| 4577.00  | 88.72       | 43.13       | 3223.09   | 1122.65     | 1144.85     | 1603.43  | 6.28             | 5.10               | 3.68              |              |
| 4608.00  | 90.40       | 47.18       | 3223.33   | 1144.51     | 1166.82     | 1634.42  | 14.14            | 5.42               | 13.06             |              |
| 4639.00  | 90.57       | 49.99       | 3223.07   | 1165.01     | 1190.06     | 1665.38  | 9.08             | 0.55               | 9.06              |              |
| 4670.00  | 91.36       | 50.78       | 3222.55   | 1184.78     | 1213.94     | 1696.27  | 3.60             | 2.55               | 2.55              |              |
| 4701.00  | 91.54       | 51.13       | 3221.76   | 1204.30     | 1238.01     | 1727.14  | 1.27             | 0.58               | 1.13              |              |

# Pathfinder Energy

## Survey Report

**Company:** Energen Resources Corporation  
**Field:** Carracas Canyon  
**Site:** Carracas 34 A-7  
**Well:** Carracas 34 A-7  
**Wellpath:** Original Hole

**Date:** 6/7/2006 **Time:** 15:21:28 **Page:** 3  
**Co-ordinate(NE) Reference:** Well: Carracas 34 A-7, Grid North  
**Vertical (TVD) Reference:** System: Mean Sea Level  
**Section (VS) Reference:** Well (0.00N,0.00E,45.76Azi)  
**Survey Calculation Method:** Minimum Curvature **Db:** Sybase

**Survey:** Pathfinder MWD Survey

| MD<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | +N/-S<br>ft | +E/-W<br>ft | VS<br>ft | DLS<br>deg/100ft | Build<br>deg/100ft | Turn<br>deg/100ft | Tool/Comment |
|----------|-------------|-------------|-----------|-------------|-------------|----------|------------------|--------------------|-------------------|--------------|
| 4732.00  | 91.54       | 51.31       | 3220.93   | 1223.71     | 1262.17     | 1757.99  | 0.58             | 0.00               | 0.58              |              |
| 4764.00  | 91.10       | 51.75       | 3220.19   | 1243.61     | 1287.21     | 1789.81  | 1.94             | -1.37              | 1.37              |              |
| 4794.00  | 89.87       | 50.60       | 3219.94   | 1262.42     | 1310.59     | 1819.68  | 5.61             | -4.10              | -3.83             |              |
| 4825.00  | 89.52       | 50.08       | 3220.10   | 1282.20     | 1334.45     | 1850.58  | 2.02             | -1.13              | -1.68             |              |
| 4856.00  | 89.78       | 49.99       | 3220.29   | 1302.11     | 1358.21     | 1881.49  | 0.89             | 0.84               | -0.29             |              |
| 4886.00  | 90.04       | 50.16       | 3220.34   | 1321.37     | 1381.22     | 1911.41  | 1.04             | 0.87               | 0.57              |              |
| 4917.00  | 89.52       | 49.55       | 3220.46   | 1341.35     | 1404.91     | 1942.33  | 2.59             | -1.68              | -1.97             |              |
| 4949.00  | 88.99       | 48.41       | 3220.87   | 1362.35     | 1429.05     | 1974.27  | 3.93             | -1.66              | -3.56             |              |
| 4980.00  | 89.78       | 48.85       | 3221.21   | 1382.84     | 1452.32     | 2005.23  | 2.92             | 2.55               | 1.42              |              |
| 5011.00  | 90.13       | 48.06       | 3221.23   | 1403.40     | 1475.52     | 2036.20  | 2.79             | 1.13               | -2.55             |              |
| 5043.00  | 90.57       | 45.68       | 3221.03   | 1425.27     | 1498.87     | 2068.19  | 7.56             | 1.37               | -7.44             |              |
| 5074.00  | 91.63       | 44.10       | 3220.44   | 1447.23     | 1520.74     | 2099.18  | 6.14             | 3.42               | -5.10             |              |
| 5106.00  | 92.07       | 43.05       | 3219.41   | 1470.40     | 1542.79     | 2131.14  | 3.56             | 1.37               | -3.28             |              |
| 5136.00  | 91.63       | 42.08       | 3218.44   | 1492.49     | 1563.07     | 2161.08  | 3.55             | -1.47              | -3.23             |              |
| 5199.00  | 91.45       | 42.87       | 3216.74   | 1538.94     | 1605.60     | 2223.95  | 1.29             | -0.29              | 1.25              |              |
| 5231.00  | 90.84       | 42.43       | 3216.11   | 1562.47     | 1627.27     | 2255.89  | 2.35             | -1.91              | -1.37             |              |
| 5263.00  | 91.36       | 42.17       | 3215.49   | 1586.13     | 1648.80     | 2287.83  | 1.82             | 1.62               | -0.81             |              |
| 5295.00  | 92.33       | 43.13       | 3214.46   | 1609.65     | 1670.47     | 2319.77  | 4.26             | 3.03               | 3.00              |              |
| 5326.00  | 92.51       | 42.69       | 3213.15   | 1632.34     | 1691.56     | 2350.70  | 1.53             | 0.58               | -1.42             |              |
| 5364.00  | 92.33       | 42.52       | 3211.55   | 1660.28     | 1717.26     | 2388.61  | 0.65             | -0.47              | -0.45             |              |
| 5454.00  | 92.33       | 42.52       | 3207.89   | 1726.56     | 1778.04     | 2478.39  | 0.00             | 0.00               | 0.00              |              |