

District I  
1625 N French Dr., Hobbs, NM 88240

District II  
1301 W. Grand Avenue, Artesia, NM 88210

District III  
1000 Rio Brazos Rd., Aztec, NM 87410

District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-102  
Revised October 12, 2005

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                         |                                                             |                                                |
|-----------------------------------------|-------------------------------------------------------------|------------------------------------------------|
| <sup>1</sup> API Number<br>30-039-27816 | <sup>2</sup> Pool Code<br>71629                             | <sup>3</sup> Pool Name<br>Basin Fruitland Coal |
| <sup>4</sup> Property Code<br>21185     | <sup>5</sup> Property Name<br>Carson                        | <sup>6</sup> Well Number<br># 302              |
| <sup>7</sup> OGRID No.<br>162928        | <sup>8</sup> Operator Name<br>Energen Resources Corporation | <sup>9</sup> Elevation<br>7548'                |

<sup>10</sup> Surface Location

|               |         |          |       |          |               |                  |               |                |            |
|---------------|---------|----------|-------|----------|---------------|------------------|---------------|----------------|------------|
| UL or lot no. | Section | Township | Range | Lot. Idn | Feet from the | North/South line | Feet from the | East/West line | County     |
| B             | 31      | 30N      | 04W   |          | 320           | North            | 1615          | East           | Rio Arriba |

<sup>11</sup> Bottom Hole Location If Different From Surface

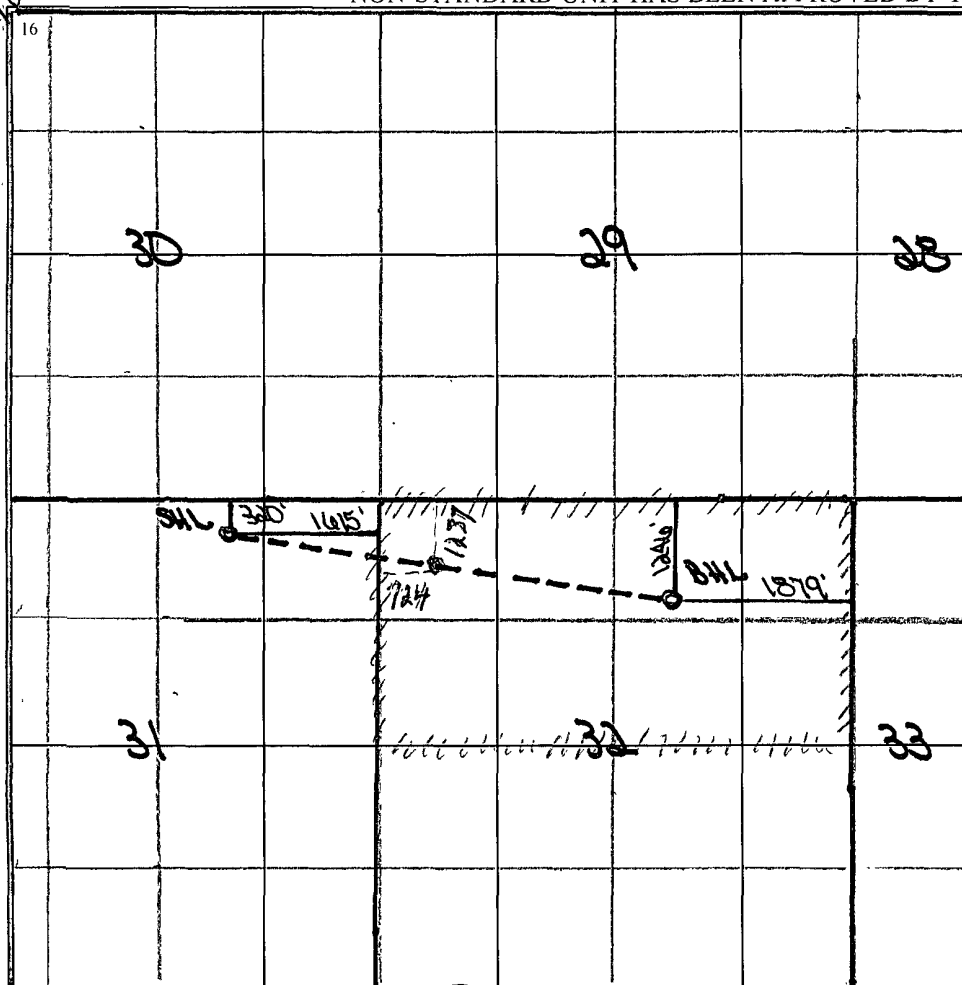
|               |         |          |       |          |               |                  |               |                |            |
|---------------|---------|----------|-------|----------|---------------|------------------|---------------|----------------|------------|
| UL or lot no. | Section | Township | Range | Lot. Idn | Feet from the | North/South line | Feet from the | East/West line | County     |
| B             | 32      | 30N      | 04W   |          | 1246          | North            | 1879          | East           | Rio Arriba |

|                                          |                               |                                  |                                            |
|------------------------------------------|-------------------------------|----------------------------------|--------------------------------------------|
| <sup>12</sup> Dedicated Acres<br>320 N/2 | <sup>13</sup> Joint or Infill | <sup>14</sup> Consolidation Code | <sup>15</sup> Order No.<br>RCVD NOV 13 '08 |
|------------------------------------------|-------------------------------|----------------------------------|--------------------------------------------|

OIL CONS. DIV.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A  
NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

DIST. 3

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>16</p>  | <p><sup>17</sup> OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division</p> <p><i>Vicki Donaghey</i> 11/11/08<br/>Signature Date</p> <p>Vicki Donaghey<br/>Printed Name<br/>Regulatory Analyst</p> <p><sup>18</sup> SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief</p> <p>11/06/2003<br/>Date of Survey</p> <p>original survey conducted and recorded by: Jason C. Edwards<br/>Signature and Seal of Professional Surveyer</p> <p>15269<br/>Certificate Number</p> |
|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



## **Energen Resources**

**SJBR- NE Sec 32, T30N, R4W  
Mestenas Mesa  
Carson #302  
UPE Lateral**

RCVD NOV 13 '08  
OIL CONS. DIV.  
DIST. 3

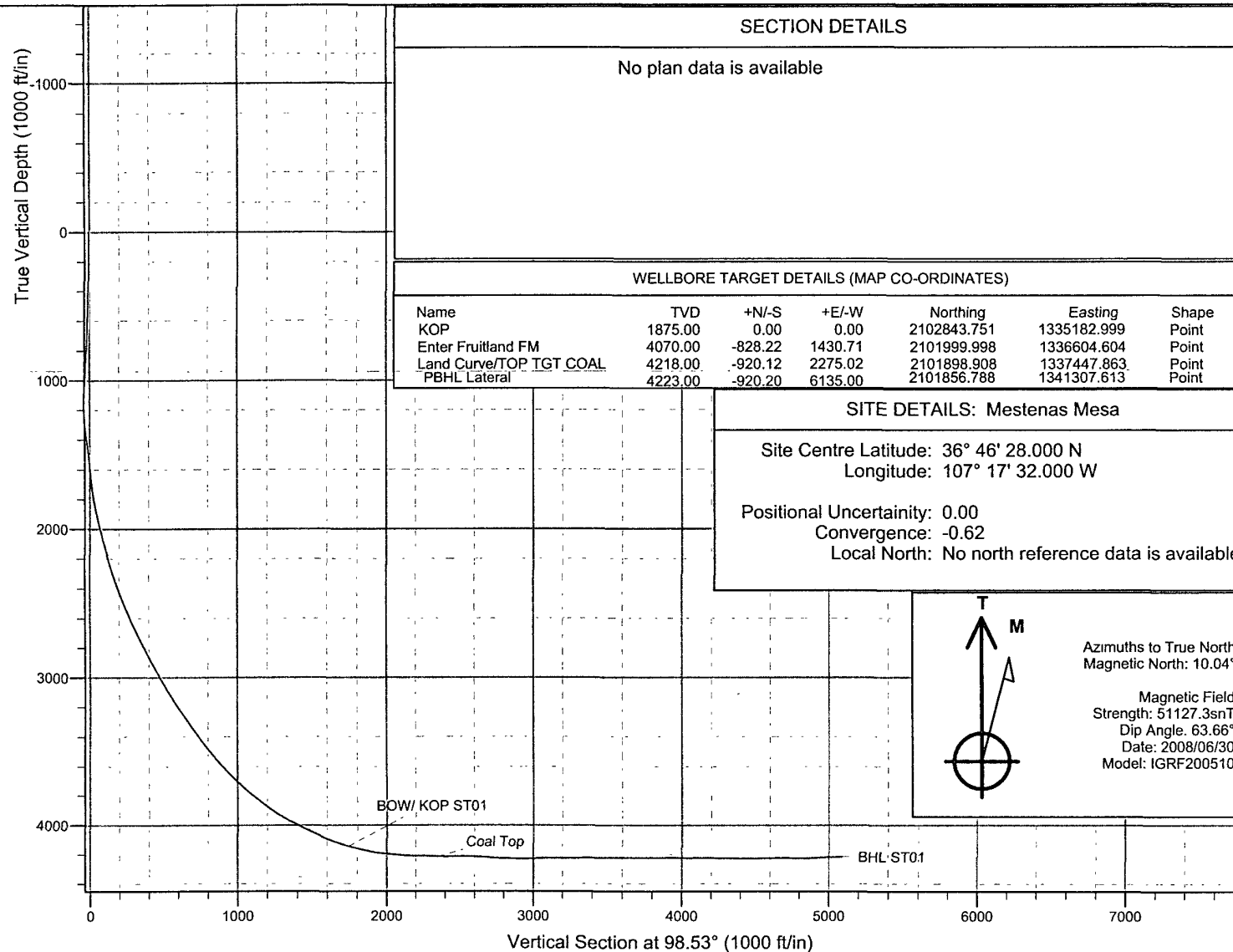
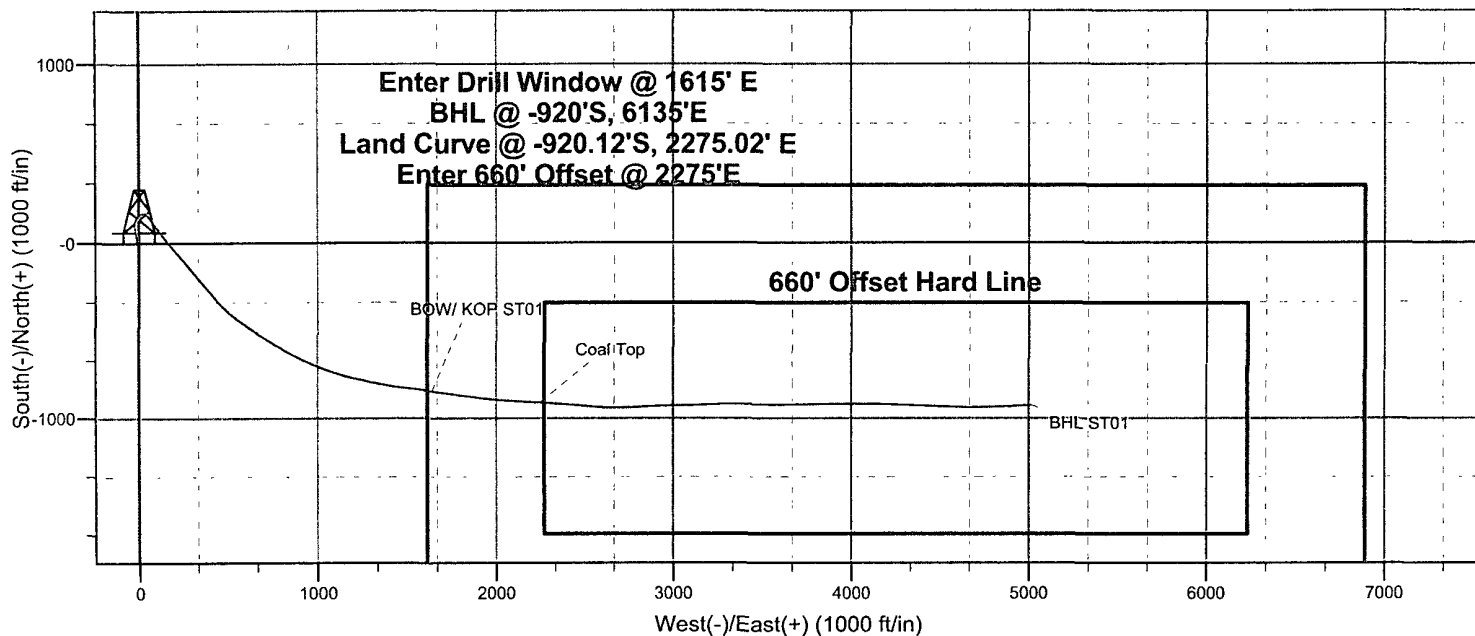
**Survey: EOW Survey**

## **Pathfinder X & Y Survey Report**

**04 September, 2008**

**PATHFINDER**  
**ENERGY SERVICES**

Survey: EOW Survey (Carson #302/UPE Lateral)



**Company:** Energen Resources  
**Project:** SJBR- NE Sec 32, T30N, R4W  
**Site:** Mestenas Mesa  
**Well:** Carson #302  
**Wellbore:** UPE Lateral  
**Design:** UPE Lateral

**Local Co-ordinate Reference:** Well Carson #302  
**TVD Reference:** WELL @ 7560.00ft (RKB 12')  
**MD Reference:** WELL @ 7560.00ft (RKB 12')  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

|                    |                            |                      |                |
|--------------------|----------------------------|----------------------|----------------|
| <b>Project</b>     | SJBR- NE Sec 32, T30N, R4W |                      |                |
| <b>Map System:</b> | US State Plane 1983        | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983  |                      |                |
| <b>Map Zone:</b>   | New Mexico Central Zone    |                      |                |

|                              |               |                          |                   |
|------------------------------|---------------|--------------------------|-------------------|
| <b>Site</b>                  | Mestenas Mesa |                          |                   |
| <b>Site Position:</b>        |               | <b>Northing:</b>         | 2,102,843.751 ft  |
| <b>From:</b>                 | Lat/Long      | <b>Easting:</b>          | 1,335,182.999 ft  |
| <b>Position Uncertainty:</b> | 0.00 ft       | <b>Slot Radius:</b>      | "                 |
|                              |               | <b>Latitude:</b>         | 36° 46' 28.000 N  |
|                              |               | <b>Longitude:</b>        | 107° 17' 32.000 W |
|                              |               | <b>Grid Convergence:</b> | -0.62 °           |

|                             |              |                            |                   |
|-----------------------------|--------------|----------------------------|-------------------|
| <b>Well</b>                 | Carson #302  |                            |                   |
| <b>Well Position</b>        | <b>+N/-S</b> | 0.00 ft                    | <b>Northing:</b>  |
|                             | <b>+E/-W</b> | 0.00 ft                    | <b>Easting:</b>   |
| <b>Position Uncertainty</b> | 0.00 ft      | <b>Wellhead Elevation:</b> | 7,548.00 ft       |
|                             |              | <b>Latitude:</b>           | 36° 46' 28.000 N  |
|                             |              | <b>Longitude:</b>          | 107° 17' 32.000 W |
|                             |              | <b>Ground Level:</b>       | 7,548.00 ft       |

|                  |                   |                            |                        |
|------------------|-------------------|----------------------------|------------------------|
| <b>Wellbore</b>  | UPE Lateral       |                            |                        |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b>         | <b>Declination (°)</b> |
|                  | IGRF200510        | 2008/06/30                 | 10.04                  |
|                  |                   | <b>Dip Angle (°)</b>       | 63.66                  |
|                  |                   | <b>Field Strength (nT)</b> | 51,127                 |

|                          |                         |                      |              |
|--------------------------|-------------------------|----------------------|--------------|
| <b>Design</b>            | UPE Lateral             |                      |              |
| <b>Audit Notes:</b>      |                         |                      |              |
| <b>Version:</b>          | 1.0                     | <b>Phase:</b>        | ACTUAL       |
|                          |                         | <b>Tie On Depth:</b> | 0.00         |
| <b>Vertical Section:</b> | <b>Depth From (TVD)</b> | <b>+N/-S</b>         | <b>+E/-W</b> |
|                          | (ft)                    | (ft)                 | (ft)         |
|                          | 0.00                    | 0.00                 | 0.00         |
|                          |                         | <b>Direction (°)</b> | 98.53        |

|                       |                |                          |                  |                    |
|-----------------------|----------------|--------------------------|------------------|--------------------|
| <b>Survey Program</b> | <b>Date</b>    | 2008/09/04               |                  |                    |
| <b>From (ft)</b>      | <b>To (ft)</b> | <b>Survey (Wellbore)</b> | <b>Tool Name</b> | <b>Description</b> |
| 356.00                | 8,363.00       | EOW Survey (UPE Lateral) | UNKNOWN          | Unknown survey     |

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**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

**Survey**

| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 0.00       | 0.00       | 0.00       | 0.00        | -7,560.00     | 0.00        | 0.00        | 0.00           | 0.00              | 2,102,843.75     | 1,335,183.00    |
| 356.00     | 1.14       | 343.50     | 355.98      | -7,204.02     | 3.40        | -1.01       | -1.50          | 0.32              | 2,102,847.16     | 1,335,182.03    |
| 452.00     | 2.64       | 342.84     | 451.92      | -7,108.08     | 6.42        | -1.93       | -2.86          | 1.56              | 2,102,850.20     | 1,335,181.14    |
| 547.00     | 4.22       | 346.32     | 546.75      | -7,013.25     | 11.91       | -3.40       | -5.13          | 1.68              | 2,102,855.70     | 1,335,179.73    |
| 642.00     | 6.24       | 347.36     | 641.35      | -6,918.65     | 20.35       | -5.36       | -8.32          | 2.13              | 2,102,864.15     | 1,335,177.86    |
| 738.00     | 8.09       | 348.37     | 736.59      | -6,823.41     | 32.05       | -7.86       | -12.53         | 1.93              | 2,102,875.89     | 1,335,175.49    |
| 830.00     | 9.94       | 348.29     | 827.45      | -6,732.55     | 46.17       | -10.78      | -17.51         | 2.01              | 2,102,890.04     | 1,335,172.72    |
| 891.13     | 10.20      | 349.13     | 887.64      | -6,672.36     | 56.65       | -12.87      | -21.13         | 0.49              | 2,102,900.54     | 1,335,170.75    |
| 925.00     | 10.29      | 349.03     | 920.97      | -6,639.03     | 62.57       | -14.01      | -23.14         | 0.27              | 2,102,906.47     | 1,335,169.67    |
| 956.00     | 10.29      | 348.20     | 951.47      | -6,608.53     | 68.00       | -15.10      | -25.02         | 0.48              | 2,102,911.91     | 1,335,168.64    |
| 986.00     | 10.38      | 348.38     | 980.99      | -6,579.01     | 73.27       | -16.20      | -26.89         | 0.32              | 2,102,917.19     | 1,335,167.60    |
| 1,017.00   | 10.82      | 349.98     | 1,011.46    | -6,548.54     | 78.87       | -17.27      | -28.77         | 1.71              | 2,102,922.80     | 1,335,166.59    |
| 1,048.00   | 11.34      | 352.56     | 1,041.88    | -6,518.12     | 84.75       | -18.17      | -30.54         | 2.32              | 2,102,928.70     | 1,335,165.76    |
| 1,078.00   | 11.96      | 355.47     | 1,071.26    | -6,488.74     | 90.78       | -18.79      | -32.05         | 2.85              | 2,102,934.73     | 1,335,165.19    |
| 1,109.00   | 12.31      | 358.13     | 1,101.57    | -6,458.43     | 97.28       | -19.16      | -33.37         | 2.13              | 2,102,941.24     | 1,335,164.90    |
| 1,138.00   | 11.96      | 2.77       | 1,129.92    | -6,430.08     | 103.37      | -19.11      | -34.23         | 3.57              | 2,102,947.33     | 1,335,165.01    |
| 1,169.00   | 11.61      | 8.27       | 1,160.27    | -6,399.73     | 109.67      | -18.51      | -34.57         | 3.79              | 2,102,953.62     | 1,335,165.69    |
| 1,198.00   | 11.17      | 15.28      | 1,188.70    | -6,371.30     | 115.27      | -17.35      | -34.25         | 5.01              | 2,102,959.20     | 1,335,166.91    |
| 1,229.00   | 11.26      | 21.08      | 1,219.11    | -6,340.89     | 120.99      | -15.47      | -33.24         | 3.65              | 2,102,964.90     | 1,335,168.85    |
| 1,259.00   | 11.43      | 25.51      | 1,248.52    | -6,311.48     | 126.40      | -13.13      | -31.74         | 2.96              | 2,102,970.29     | 1,335,171.24    |
| 1,288.00   | 11.26      | 30.00      | 1,276.96    | -6,283.04     | 131.45      | -10.48      | -29.86         | 3.10              | 2,102,975.31     | 1,335,173.95    |
| 1,319.00   | 10.90      | 34.47      | 1,307.38    | -6,252.62     | 136.49      | -7.31       | -27.47         | 3.00              | 2,102,980.31     | 1,335,177.18    |
| 1,349.00   | 11.17      | 40.38      | 1,336.83    | -6,223.17     | 141.04      | -3.82       | -24.70         | 3.87              | 2,102,984.82     | 1,335,180.71    |
| 1,379.00   | 11.52      | 46.03      | 1,366.24    | -6,193.76     | 145.33      | 0.22        | -21.34         | 3.88              | 2,102,989.07     | 1,335,184.80    |
| 1,410.00   | 11.96      | 49.41      | 1,396.59    | -6,163.41     | 149.57      | 4.89        | -17.35         | 2.63              | 2,102,993.26     | 1,335,189.51    |
| 1,440.00   | 11.78      | 52.83      | 1,425.95    | -6,134.05     | 153.44      | 9.69        | -13.18         | 2.42              | 2,102,997.08     | 1,335,194.36    |
| 1,470.00   | 11.08      | 54.76      | 1,455.36    | -6,104.64     | 156.96      | 14.48       | -8.96          | 2.66              | 2,103,000.54     | 1,335,199.19    |

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**Survey**

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|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 1,501.00   | 10.02      | 56.72      | 1,485.83    | -6,074.17     | 160.16      | 19.17       | -4.80          | 3.61              | 2,103,003.69     | 1,335,203.91    |
| 1,531.00   | 9.15       | 60.06      | 1,515.41    | -6,044.59     | 162.78      | 23.42       | -0.99          | 3.44              | 2,103,006.27     | 1,335,208.19    |
| 1,562.00   | 7.74       | 63.88      | 1,546.08    | -6,013.92     | 164.93      | 27.43       | 2.66           | 4.89              | 2,103,008.37     | 1,335,212.22    |
| 1,592.00   | 6.86       | 72.89      | 1,575.83    | -5,984.17     | 166.35      | 30.95       | 5.94           | 4.80              | 2,103,009.75     | 1,335,215.76    |
| 1,621.00   | 5.89       | 85.01      | 1,604.66    | -5,955.34     | 166.98      | 34.09       | 8.95           | 5.70              | 2,103,010.35     | 1,335,218.91    |
| 1,651.00   | 5.01       | 103.19     | 1,634.52    | -5,925.48     | 166.82      | 36.90       | 11.75          | 6.42              | 2,103,010.16     | 1,335,221.71    |
| 1,682.00   | 5.45       | 122.93     | 1,665.40    | -5,894.60     | 165.71      | 39.46       | 14.44          | 5.94              | 2,103,009.02     | 1,335,224.26    |
| 1,712.00   | 6.60       | 132.87     | 1,695.23    | -5,864.77     | 163.76      | 41.91       | 17.16          | 5.16              | 2,103,007.05     | 1,335,226.69    |
| 1,743.00   | 8.18       | 134.27     | 1,725.97    | -5,834.03     | 161.01      | 44.80       | 20.42          | 5.13              | 2,103,004.26     | 1,335,229.55    |
| 1,774.00   | 10.02      | 137.17     | 1,756.58    | -5,803.42     | 157.49      | 48.21       | 24.32          | 6.12              | 2,103,000.71     | 1,335,232.92    |
| 1,803.00   | 12.13      | 138.86     | 1,785.04    | -5,774.96     | 153.35      | 51.93       | 28.61          | 7.36              | 2,102,996.52     | 1,335,236.60    |
| 1,834.00   | 14.07      | 140.17     | 1,815.23    | -5,744.77     | 148.00      | 56.49       | 33.91          | 6.33              | 2,102,991.13     | 1,335,241.10    |
| 1,864.00   | 15.30      | 140.70     | 1,844.25    | -5,715.75     | 142.14      | 61.33       | 39.57          | 4.12              | 2,102,985.21     | 1,335,245.88    |
| 1,895.00   | 16.18      | 140.41     | 1,874.09    | -5,685.91     | 135.64      | 66.68       | 45.82          | 2.85              | 2,102,978.66     | 1,335,251.15    |
| 1,923.00   | 16.80      | 142.42     | 1,900.94    | -5,659.06     | 129.43      | 71.63       | 51.64          | 3.01              | 2,102,972.39     | 1,335,256.03    |
| 1,951.00   | 17.32      | 143.34     | 1,927.70    | -5,632.30     | 122.88      | 76.59       | 57.51          | 2.09              | 2,102,965.79     | 1,335,260.92    |
| 1,981.00   | 18.11      | 143.19     | 1,956.28    | -5,603.72     | 115.56      | 82.05       | 64.00          | 2.64              | 2,102,958.41     | 1,335,266.30    |
| 2,011.00   | 18.91      | 143.58     | 1,984.73    | -5,575.27     | 107.92      | 87.73       | 70.75          | 2.70              | 2,102,950.71     | 1,335,271.89    |
| 2,042.00   | 19.70      | 143.17     | 2,013.99    | -5,546.01     | 99.70       | 93.84       | 78.01          | 2.59              | 2,102,942.42     | 1,335,277.92    |
| 2,071.00   | 20.14      | 143.32     | 2,041.25    | -5,518.75     | 91.78       | 99.75       | 85.04          | 1.53              | 2,102,934.44     | 1,335,283.75    |
| 2,102.00   | 21.02      | 143.91     | 2,070.27    | -5,489.73     | 83.01       | 106.22      | 92.73          | 2.92              | 2,102,925.59     | 1,335,290.11    |
| 2,133.00   | 21.37      | 143.41     | 2,099.17    | -5,460.83     | 73.98       | 112.86      | 100.64         | 1.27              | 2,102,916.50     | 1,335,296.66    |
| 2,164.00   | 21.63      | 142.29     | 2,128.02    | -5,431.98     | 64.92       | 119.72      | 108.76         | 1.57              | 2,102,907.37     | 1,335,303.42    |
| 2,193.00   | 21.72      | 142.66     | 2,154.97    | -5,405.03     | 56.43       | 126.24      | 116.48         | 0.56              | 2,102,898.80     | 1,335,309.85    |
| 2,225.00   | 21.90      | 142.08     | 2,184.68    | -5,375.32     | 47.01       | 133.50      | 125.05         | 0.88              | 2,102,889.31     | 1,335,317.00    |
| 2,257.00   | 21.90      | 141.87     | 2,214.37    | -5,345.63     | 37.61       | 140.85      | 133.72         | 0.24              | 2,102,879.83     | 1,335,324.25    |
| 2,289.00   | 22.16      | 141.04     | 2,244.03    | -5,315.97     | 28.22       | 148.33      | 142.51         | 1.27              | 2,102,870.36     | 1,335,331.63    |

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**Survey**

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|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 2,321.00   | 23.13      | 141.03     | 2,273.56    | -5,286.44     | 18.64       | 156.08      | 151.59         | 3.03              | 2,102,860.69     | 1,335,339.27    |
| 2,353.00   | 23.74      | 140.84     | 2,302.92    | -5,257.08     | 8.76        | 164.10      | 160.99         | 1.92              | 2,102,850.73     | 1,335,347.19    |
| 2,385.00   | 24.27      | 140.05     | 2,332.16    | -5,227.84     | -1.27       | 172.39      | 170.67         | 1.94              | 2,102,840.60     | 1,335,355.37    |
| 2,417.00   | 25.06      | 139.73     | 2,361.24    | -5,198.76     | -11.49      | 181.00      | 180.70         | 2.50              | 2,102,830.29     | 1,335,363.86    |
| 2,449.00   | 25.76      | 139.39     | 2,390.14    | -5,169.86     | -21.94      | 189.90      | 191.06         | 2.23              | 2,102,819.75     | 1,335,372.65    |
| 2,481.00   | 26.38      | 139.17     | 2,418.88    | -5,141.12     | -32.59      | 199.08      | 201.71         | 1.96              | 2,102,808.99     | 1,335,381.71    |
| 2,513.00   | 26.82      | 139.70     | 2,447.50    | -5,112.50     | -43.48      | 208.40      | 212.54         | 1.56              | 2,102,798.00     | 1,335,390.91    |
| 2,544.00   | 27.61      | 139.61     | 2,475.07    | -5,084.93     | -54.28      | 217.57      | 223.22         | 2.55              | 2,102,787.10     | 1,335,399.97    |
| 2,576.00   | 28.40      | 139.48     | 2,503.32    | -5,056.68     | -65.72      | 227.32      | 234.56         | 2.48              | 2,102,775.56     | 1,335,409.59    |
| 2,608.00   | 29.28      | 139.59     | 2,531.35    | -5,028.65     | -77.46      | 237.34      | 246.20         | 2.75              | 2,102,763.71     | 1,335,419.48    |
| 2,640.00   | 29.90      | 139.62     | 2,559.18    | -5,000.82     | -89.50      | 247.58      | 258.12         | 1.94              | 2,102,751.56     | 1,335,429.59    |
| 2,672.00   | 30.78      | 139.73     | 2,586.79    | -4,973.21     | -101.82     | 258.04      | 270.29         | 2.76              | 2,102,739.13     | 1,335,439.91    |
| 2,704.00   | 31.22      | 139.87     | 2,614.22    | -4,945.78     | -114.41     | 268.68      | 282.68         | 1.39              | 2,102,726.42     | 1,335,450.41    |
| 2,736.00   | 32.10      | 139.90     | 2,641.46    | -4,918.54     | -127.25     | 279.50      | 295.28         | 2.75              | 2,102,713.46     | 1,335,461.10    |
| 2,768.00   | 32.71      | 140.25     | 2,668.48    | -4,891.52     | -140.40     | 290.51      | 308.12         | 1.99              | 2,102,700.19     | 1,335,471.96    |
| 2,800.00   | 33.15      | 140.01     | 2,695.34    | -4,864.66     | -153.75     | 301.66      | 321.13         | 1.43              | 2,102,686.72     | 1,335,482.96    |
| 2,832.00   | 33.77      | 140.22     | 2,722.03    | -4,837.97     | -167.29     | 312.97      | 334.32         | 1.97              | 2,102,673.06     | 1,335,494.13    |
| 2,863.00   | 34.38      | 140.17     | 2,747.71    | -4,812.29     | -180.64     | 324.09      | 347.30         | 1.97              | 2,102,659.60     | 1,335,505.10    |
| 2,895.00   | 34.38      | 140.47     | 2,774.12    | -4,785.88     | -194.54     | 335.63      | 360.77         | 0.53              | 2,102,645.56     | 1,335,516.49    |
| 2,927.00   | 34.47      | 140.38     | 2,800.51    | -4,759.49     | -208.49     | 347.15      | 374.24         | 0.32              | 2,102,631.50     | 1,335,527.86    |
| 2,958.00   | 34.82      | 140.75     | 2,826.02    | -4,733.98     | -222.10     | 358.35      | 387.33         | 1.32              | 2,102,617.76     | 1,335,538.90    |
| 2,990.00   | 35.53      | 140.75     | 2,852.17    | -4,707.83     | -236.37     | 370.01      | 400.98         | 2.22              | 2,102,603.36     | 1,335,550.41    |
| 3,022.00   | 35.70      | 140.62     | 2,878.19    | -4,681.81     | -250.79     | 381.82      | 414.79         | 0.58              | 2,102,588.82     | 1,335,562.06    |
| 3,054.00   | 35.96      | 139.99     | 2,904.13    | -4,655.87     | -265.20     | 393.78      | 428.76         | 1.41              | 2,102,574.27     | 1,335,573.87    |
| 3,086.00   | 36.58      | 140.14     | 2,929.93    | -4,630.07     | -279.72     | 405.93      | 442.93         | 1.96              | 2,102,559.63     | 1,335,585.86    |
| 3,106.00   | 36.58      | 140.42     | 2,945.99    | -4,614.01     | -288.89     | 413.55      | 451.82         | 0.83              | 2,102,550.38     | 1,335,593.38    |
| 3,137.00   | 36.84      | 140.28     | 2,970.85    | -4,589.15     | -303.15     | 425.37      | 465.63         | 0.88              | 2,102,535.98     | 1,335,605.05    |

**Company:** Energen Resources  
**Project:** SJBR- NE Sec 32, T30N, R4W  
**Site:** Mestenas Mesa  
**Well:** Carson #302  
**Wellbore:** UPE Lateral  
**Design:** UPE Lateral

**Local Co-ordinate Reference:** Well Carson #302  
**TVD Reference:** WELL @ 7560.00ft (RKB 12')  
**MD Reference:** WELL @ 7560.00ft (RKB 12')  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

| Survey     |            |            |             |               |             |             |                |                   |                  |                 |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
| 3,167.00   | 36.84      | 140.39     | 2,994.85    | -4,565.15     | -317.00     | 436.85      | 479.04         | 0.22              | 2,102,522.01     | 1,335,616.38    |
| 3,196.00   | 36.58      | 140.21     | 3,018.10    | -4,541.90     | -330.34     | 447.93      | 491.97         | 0.97              | 2,102,508.55     | 1,335,627.30    |
| 3,227.00   | 36.67      | 139.24     | 3,042.98    | -4,517.02     | -344.45     | 459.88      | 505.89         | 1.89              | 2,102,494.31     | 1,335,639.10    |
| 3,258.00   | 36.84      | 137.02     | 3,067.82    | -4,492.18     | -358.26     | 472.26      | 520.18         | 4.32              | 2,102,480.37     | 1,335,651.33    |
| 3,289.00   | 37.11      | 135.11     | 3,092.59    | -4,467.41     | -371.68     | 485.20      | 534.96         | 3.81              | 2,102,466.80     | 1,335,664.12    |
| 3,319.00   | 37.11      | 133.83     | 3,116.51    | -4,443.49     | -384.36     | 498.12      | 549.62         | 2.57              | 2,102,453.98     | 1,335,676.90    |
| 3,350.00   | 37.28      | 131.88     | 3,141.21    | -4,418.79     | -397.11     | 511.85      | 565.09         | 3.84              | 2,102,441.09     | 1,335,690.50    |
| 3,380.00   | 37.28      | 130.84     | 3,165.08    | -4,394.92     | -409.12     | 525.49      | 580.36         | 2.10              | 2,102,428.94     | 1,335,704.00    |
| 3,409.00   | 37.55      | 129.67     | 3,188.11    | -4,371.89     | -420.50     | 538.94      | 595.35         | 2.62              | 2,102,417.41     | 1,335,717.33    |
| 3,440.00   | 38.43      | 127.66     | 3,212.54    | -4,347.46     | -432.42     | 553.84      | 611.85         | 4.90              | 2,102,405.33     | 1,335,732.09    |
| 3,469.00   | 38.60      | 127.04     | 3,235.23    | -4,324.77     | -443.37     | 568.19      | 627.67         | 1.45              | 2,102,394.22     | 1,335,746.33    |
| 3,499.00   | 38.25      | 126.06     | 3,258.74    | -4,301.26     | -454.48     | 583.17      | 644.13         | 2.34              | 2,102,382.95     | 1,335,761.18    |
| 3,530.00   | 37.64      | 125.00     | 3,283.18    | -4,276.82     | -465.55     | 598.68      | 661.11         | 2.88              | 2,102,371.70     | 1,335,776.57    |
| 3,561.00   | 37.28      | 124.13     | 3,307.79    | -4,252.21     | -476.25     | 614.21      | 678.05         | 2.06              | 2,102,360.84     | 1,335,791.98    |
| 3,594.00   | 37.55      | 123.42     | 3,334.00    | -4,226.00     | -487.40     | 630.87      | 696.19         | 1.54              | 2,102,349.51     | 1,335,808.53    |
| 3,625.00   | 38.08      | 123.35     | 3,358.49    | -4,201.51     | -497.86     | 646.74      | 713.44         | 1.72              | 2,102,338.88     | 1,335,824.28    |
| 3,657.00   | 38.43      | 123.95     | 3,383.62    | -4,176.38     | -508.84     | 663.24      | 731.37         | 1.59              | 2,102,327.72     | 1,335,840.65    |
| 3,689.00   | 39.04      | 124.34     | 3,408.58    | -4,151.42     | -520.07     | 679.81      | 749.43         | 2.05              | 2,102,316.30     | 1,335,857.10    |
| 3,721.00   | 39.66      | 123.92     | 3,433.33    | -4,126.67     | -531.46     | 696.60      | 767.73         | 2.11              | 2,102,304.74     | 1,335,873.77    |
| 3,753.00   | 40.54      | 123.50     | 3,457.80    | -4,102.20     | -542.90     | 713.75      | 786.38         | 2.88              | 2,102,293.11     | 1,335,890.79    |
| 3,784.00   | 41.24      | 123.11     | 3,481.24    | -4,078.76     | -554.04     | 730.71      | 804.81         | 2.40              | 2,102,281.79     | 1,335,907.63    |
| 3,816.00   | 41.94      | 122.93     | 3,505.17    | -4,054.83     | -565.61     | 748.52      | 824.14         | 2.22              | 2,102,270.02     | 1,335,925.31    |
| 3,848.00   | 42.47      | 122.66     | 3,528.88    | -4,031.12     | -577.26     | 766.59      | 843.73         | 1.75              | 2,102,258.18     | 1,335,943.26    |
| 3,880.00   | 43.18      | 122.68     | 3,552.35    | -4,007.65     | -589.00     | 784.90      | 863.58         | 2.22              | 2,102,246.24     | 1,335,961.44    |
| 3,912.00   | 43.44      | 121.90     | 3,575.63    | -3,984.37     | -600.72     | 803.46      | 883.67         | 1.86              | 2,102,234.31     | 1,335,979.87    |
| 3,944.00   | 43.53      | 120.77     | 3,598.85    | -3,961.15     | -612.18     | 822.27      | 903.97         | 2.45              | 2,102,222.66     | 1,335,998.55    |
| 3,975.00   | 44.05      | 120.23     | 3,621.23    | -3,938.77     | -623.06     | 840.75      | 923.87         | 2.07              | 2,102,211.57     | 1,336,016.91    |

**Company:** Energen Resources  
**Project:** SJBR- NE Sec 32, T30N, R4W  
**Site:** Mestenas Mesa  
**Well:** Carson #302  
**Wellbore:** UPE Lateral  
**Design:** UPE Lateral

**Local Co-ordinate Reference:** Well Carson #302  
**TVD Reference:** WELL @ 7560.00ft (RKB 12')  
**MD Reference:** WELL @ 7560 00ft (RKB 12')  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

**Survey**

| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 4,007.00   | 44.85      | 119.37     | 3,644.07    | -3,915.93     | -634.20     | 860.20      | 944.75         | 3.13              | 2,102,200.22     | 1,336,036.24    |
| 4,039.00   | 45.99      | 118.15     | 3,666.53    | -3,893.47     | -645.16     | 880.18      | 966.14         | 4.48              | 2,102,189.04     | 1,336,056.10    |
| 4,070.00   | 47.22      | 117.02     | 3,687.83    | -3,872.17     | -655.59     | 900.14      | 987.43         | 4.77              | 2,102,178.40     | 1,336,075.95    |
| 4,102.00   | 47.66      | 115.69     | 3,709.47    | -3,850.53     | -666.05     | 921.26      | 1,009.87       | 3.36              | 2,102,167.70     | 1,336,096.95    |
| 4,134.00   | 47.75      | 114.83     | 3,731.01    | -3,828.99     | -676.15     | 942.67      | 1,032.53       | 2.01              | 2,102,157.37     | 1,336,118.25    |
| 4,166.00   | 48.54      | 114.58     | 3,752.36    | -3,807.64     | -686.11     | 964.32      | 1,055.42       | 2.54              | 2,102,147.17     | 1,336,139.79    |
| 4,197.00   | 49.42      | 113.77     | 3,772.71    | -3,787.29     | -695.69     | 985.66      | 1,077.95       | 3.46              | 2,102,137.37     | 1,336,161.02    |
| 4,229.00   | 50.65      | 113.43     | 3,793.26    | -3,766.74     | -705.51     | 1,008.13    | 1,101.63       | 3.93              | 2,102,127.30     | 1,336,183.39    |
| 4,261.00   | 51.09      | 112.08     | 3,813.46    | -3,746.54     | -715.11     | 1,031.02    | 1,125.69       | 3.55              | 2,102,117.45     | 1,336,206.17    |
| 4,293.00   | 51.70      | 110.47     | 3,833.42    | -3,726.58     | -724.18     | 1,054.33    | 1,150.08       | 4.37              | 2,102,108.13     | 1,336,229.37    |
| 4,325.00   | 52.14      | 109.88     | 3,853.16    | -3,706.84     | -732.87     | 1,077.97    | 1,174.75       | 2.00              | 2,102,099.19     | 1,336,252.92    |
| 4,357.00   | 52.50      | 108.84     | 3,872.72    | -3,687.28     | -741.26     | 1,101.86    | 1,199.62       | 2.81              | 2,102,090.53     | 1,336,276.72    |
| 4,389.00   | 53.38      | 107.34     | 3,892.00    | -3,668.00     | -749.19     | 1,126.14    | 1,224.80       | 4.64              | 2,102,082.34     | 1,336,300.91    |
| 4,421.00   | 54.87      | 106.19     | 3,910.76    | -3,649.24     | -756.67     | 1,150.96    | 1,250.47       | 5.49              | 2,102,074.59     | 1,336,325.65    |
| 4,453.00   | 57.51      | 104.35     | 3,928.56    | -3,631.44     | -763.66     | 1,176.61    | 1,276.87       | 9.53              | 2,102,067.32     | 1,336,351.22    |
| 4,484.00   | 59.44      | 103.49     | 3,944.77    | -3,615.23     | -770.02     | 1,202.26    | 1,303.17       | 6.66              | 2,102,060.69     | 1,336,376.80    |
| 4,516.00   | 60.94      | 102.68     | 3,960.68    | -3,599.32     | -776.30     | 1,229.30    | 1,330.85       | 5.18              | 2,102,054.11     | 1,336,403.77    |
| 4,540.00   | 61.91      | 103.01     | 3,972.16    | -3,587.84     | -780.99     | 1,249.85    | 1,351.87       | 4.22              | 2,102,049.20     | 1,336,424.27    |
| 4,570.00   | 62.70      | 103.04     | 3,986.10    | -3,573.90     | -786.97     | 1,275.73    | 1,378.35       | 2.63              | 2,102,042.93     | 1,336,450.08    |
| 4,601.00   | 62.61      | 102.55     | 4,000.34    | -3,559.66     | -793.07     | 1,302.58    | 1,405.81       | 1.43              | 2,102,036.54     | 1,336,476.87    |
| 4,630.00   | 63.31      | 102.32     | 4,013.52    | -3,546.48     | -798.63     | 1,327.81    | 1,431.58       | 2.52              | 2,102,030.70     | 1,336,502.03    |
| 4,661.00   | 64.02      | 101.63     | 4,027.28    | -3,532.72     | -804.40     | 1,354.98    | 1,459.31       | 3.04              | 2,102,024.64     | 1,336,529.14    |
| 4,692.00   | 64.10      | 101.27     | 4,040.84    | -3,519.16     | -809.93     | 1,382.31    | 1,487.15       | 1.08              | 2,102,018.81     | 1,336,556.40    |
| 4,721.00   | 64.37      | 100.32     | 4,053.44    | -3,506.56     | -814.82     | 1,407.96    | 1,513.25       | 3.09              | 2,102,013.64     | 1,336,582.00    |
| 4,752.00   | 64.90      | 98.94      | 4,066.72    | -3,493.28     | -819.51     | 1,435.58    | 1,541.25       | 4.37              | 2,102,008.66     | 1,336,609.56    |
| 4,782.00   | 65.60      | 97.50      | 4,079.28    | -3,480.72     | -823.40     | 1,462.54    | 1,568.49       | 4.94              | 2,102,004.47     | 1,336,636.48    |
| 4,813.00   | 67.10      | 97.00      | 4,091.72    | -3,468.28     | -826.98     | 1,490.71    | 1,596.88       | 5.06              | 2,102,000.58     | 1,336,664.61    |

**Company:** Energen Resources  
**Project:** SJBR- NE Sec 32, T30N, R4W  
**Site:** Mestenas Mesa  
**Well:** Carson #302  
**Wellbore:** UPE Lateral  
**Design:** UPE Lateral

**Local Co-ordinate Reference:** Well Carson #302  
**TVD Reference:** WELL @ 7560.00ft (RKB 12')  
**MD Reference:** WELL @ 7560 00ft (RKB 12')  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

**Survey**

| MD<br>(ft)           | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|----------------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 4,842.00             | 68.50      | 96.63      | 4,102.68    | -3,457.32     | -830.17     | 1,517.37    | 1,623.72       | 4.97              | 2,101,997.10     | 1,336,691.23    |
| 4,872.00             | 69.73      | 97.60      | 4,113.37    | -3,446.63     | -833.64     | 1,545.18    | 1,651.74       | 5.09              | 2,101,993.33     | 1,336,719.01    |
| 4,903.00             | 70.26      | 98.60      | 4,123.98    | -3,436.02     | -837.75     | 1,574.02    | 1,680.87       | 3.48              | 2,101,988.91     | 1,336,747.80    |
| 4,933.00             | 70.61      | 98.54      | 4,134.02    | -3,425.98     | -841.96     | 1,601.97    | 1,709.14       | 1.18              | 2,101,984.39     | 1,336,775.70    |
| 4,954.00             | 71.16      | 98.14      | 4,140.90    | -3,419.10     | -844.84     | 1,621.60    | 1,728.98       | 3.18              | 2,101,981.30     | 1,336,795.30    |
| 4,969.00             | 74.92      | 98.00      | 4,145.27    | -3,414.73     | -846.85     | 1,635.81    | 1,743.32       | 25.08             | 2,101,979.13     | 1,336,809.48    |
| <b>BOW/ KOP ST01</b> |            |            |             |               |             |             |                |                   |                  |                 |
| 5,000.00             | 75.36      | 98.43      | 4,153.22    | -3,406.78     | -851.13     | 1,665.46    | 1,773.28       | 1.95              | 2,101,974.53     | 1,336,839.09    |
| 5,029.00             | 76.06      | 98.33      | 4,160.38    | -3,399.62     | -855.23     | 1,693.26    | 1,801.39       | 2.44              | 2,101,970.13     | 1,336,866.85    |
| 5,060.00             | 76.41      | 98.24      | 4,167.76    | -3,392.24     | -859.57     | 1,723.06    | 1,831.50       | 1.16              | 2,101,965.47     | 1,336,896.59    |
| 5,090.00             | 77.12      | 98.22      | 4,174.63    | -3,385.37     | -863.75     | 1,751.96    | 1,860.70       | 2.37              | 2,101,960.97     | 1,336,925.45    |
| 5,120.00             | 77.56      | 98.16      | 4,181.20    | -3,378.80     | -867.92     | 1,780.93    | 1,889.97       | 1.48              | 2,101,956.49     | 1,336,954.37    |
| 5,151.00             | 80.64      | 98.07      | 4,187.06    | -3,372.94     | -872.21     | 1,811.07    | 1,920.40       | 9.94              | 2,101,951.86     | 1,336,984.46    |
| 5,181.00             | 82.22      | 97.82      | 4,191.53    | -3,368.47     | -876.31     | 1,840.44    | 1,950.07       | 5.33              | 2,101,947.44     | 1,337,013.79    |
| 5,212.00             | 84.15      | 97.61      | 4,195.21    | -3,364.79     | -880.45     | 1,870.95    | 1,980.84       | 6.26              | 2,101,942.98     | 1,337,044.24    |
| 5,241.00             | 83.98      | 97.28      | 4,198.21    | -3,361.79     | -884.18     | 1,899.55    | 2,009.68       | 1.27              | 2,101,938.93     | 1,337,072.80    |
| 5,272.00             | 85.21      | 97.02      | 4,201.13    | -3,358.87     | -888.02     | 1,930.17    | 2,040.54       | 4.05              | 2,101,934.76     | 1,337,103.38    |
| 5,302.00             | 85.03      | 96.49      | 4,203.68    | -3,356.32     | -891.54     | 1,959.85    | 2,070.41       | 1.86              | 2,101,930.92     | 1,337,133.02    |
| 5,333.00             | 84.50      | 95.11      | 4,206.51    | -3,353.49     | -894.66     | 1,990.56    | 2,101.25       | 4.75              | 2,101,927.46     | 1,337,163.70    |
| 5,364.00             | 86.00      | 94.17      | 4,209.08    | -3,350.92     | -897.16     | 2,021.35    | 2,132.07       | 5.70              | 2,101,924.63     | 1,337,194.46    |
| 5,395.00             | 87.93      | 93.79      | 4,210.72    | -3,349.28     | -899.31     | 2,052.24    | 2,162.93       | 6.34              | 2,101,922.15     | 1,337,225.32    |
| 5,425.00             | 89.69      | 93.60      | 4,211.34    | -3,348.66     | -901.24     | 2,082.17    | 2,192.81       | 5.90              | 2,101,919.89     | 1,337,255.22    |
| 5,455.00             | 90.40      | 94.25      | 4,211.32    | -3,348.68     | -903.29     | 2,112.09    | 2,222.71       | 3.21              | 2,101,917.51     | 1,337,285.13    |
| 5,486.00             | 89.43      | 94.10      | 4,211.36    | -3,348.64     | -905.55     | 2,143.01    | 2,253.62       | 3.17              | 2,101,914.91     | 1,337,316.02    |
| 5,517.00             | 87.49      | 93.43      | 4,212.20    | -3,347.80     | -907.58     | 2,173.93    | 2,284.50       | 6.62              | 2,101,912.54     | 1,337,346.92    |
| 5,547.00             | 87.05      | 93.25      | 4,213.63    | -3,346.37     | -909.33     | 2,203.85    | 2,314.35       | 1.58              | 2,101,910.47     | 1,337,376.81    |

**Company:** Energen Resources  
**Project:** SJBR- NE Sec 32, T30N, R4W  
**Site:** Mestenas Mesa  
**Well:** Carson #302  
**Wellbore:** UPE Lateral  
**Design:** UPE Lateral

**Local Co-ordinate Reference:** Well Carson #302  
**TVD Reference:** WELL @ 7560.00ft (RKB 12")  
**MD Reference:** WELL @ 7560.00ft (RKB 12")  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

**Survey**

| MD<br>(ft)      | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|-----------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 5,588.00        | 87.23      | 92.89      | 4,215.67    | -3,344.33     | -911.52     | 2,244.74    | 2,355.11       | 0.98              | 2,101,907.83     | 1,337,417.68    |
| <b>Coal Top</b> |            |            |             |               |             |             |                |                   |                  |                 |
| 5,682.00        | 91.80      | 94.34      | 4,216.47    | -3,343.53     | -917.45     | 2,338.52    | 2,448.73       | 5.10              | 2,101,900.89     | 1,337,511.39    |
| 5,713.00        | 91.28      | 94.22      | 4,215.63    | -3,344.37     | -919.76     | 2,369.42    | 2,479.64       | 1.72              | 2,101,898.24     | 1,337,542.26    |
| 5,745.00        | 90.31      | 94.39      | 4,215.19    | -3,344.81     | -922.16     | 2,401.33    | 2,511.55       | 3.08              | 2,101,895.49     | 1,337,574.14    |
| 5,776.00        | 90.04      | 95.10      | 4,215.10    | -3,344.90     | -924.73     | 2,432.22    | 2,542.48       | 2.45              | 2,101,892.59     | 1,337,605.00    |
| 5,808.00        | 89.08      | 95.27      | 4,215.34    | -3,344.66     | -927.62     | 2,464.09    | 2,574.42       | 3.05              | 2,101,889.35     | 1,337,636.84    |
| 5,839.00        | 86.17      | 95.67      | 4,216.63    | -3,343.37     | -930.57     | 2,494.92    | 2,605.35       | 9.48              | 2,101,886.06     | 1,337,667.63    |
| 5,869.00        | 87.67      | 95.49      | 4,218.24    | -3,341.76     | -933.48     | 2,524.73    | 2,635.27       | 5.04              | 2,101,882.82     | 1,337,697.41    |
| 5,899.00        | 87.58      | 94.73      | 4,219.48    | -3,340.52     | -936.15     | 2,554.59    | 2,665.19       | 2.55              | 2,101,879.83     | 1,337,727.24    |
| 5,930.00        | 85.38      | 93.80      | 4,221.38    | -3,338.62     | -938.46     | 2,585.44    | 2,696.04       | 7.70              | 2,101,877.19     | 1,337,758.06    |
| 5,961.00        | 84.94      | 92.60      | 4,224.00    | -3,336.00     | -940.18     | 2,616.28    | 2,726.79       | 4.11              | 2,101,875.13     | 1,337,788.88    |
| 5,993.00        | 86.61      | 91.47      | 4,226.36    | -3,333.64     | -941.31     | 2,648.17    | 2,758.50       | 6.30              | 2,101,873.65     | 1,337,820.76    |
| 6,022.00        | 89.16      | 89.76      | 4,227.43    | -3,332.57     | -941.62     | 2,677.15    | 2,787.20       | 10.58             | 2,101,873.03     | 1,337,849.73    |
| 6,054.00        | 89.96      | 88.78      | 4,227.67    | -3,332.33     | -941.22     | 2,709.14    | 2,818.78       | 3.95              | 2,101,873.09     | 1,337,881.73    |
| 6,087.00        | 88.02      | 87.99      | 4,228.26    | -3,331.74     | -940.29     | 2,742.12    | 2,851.26       | 6.35              | 2,101,873.66     | 1,337,914.72    |
| 6,117.00        | 87.14      | 87.36      | 4,229.52    | -3,330.48     | -939.07     | 2,772.07    | 2,880.70       | 3.61              | 2,101,874.55     | 1,337,944.68    |
| 6,149.00        | 88.72      | 87.33      | 4,230.68    | -3,329.32     | -937.59     | 2,804.01    | 2,912.07       | 4.94              | 2,101,875.68     | 1,337,976.64    |
| 6,180.00        | 90.13      | 86.76      | 4,230.99    | -3,329.01     | -935.99     | 2,834.97    | 2,942.44       | 4.91              | 2,101,876.94     | 1,338,007.61    |
| 6,210.00        | 91.63      | 86.68      | 4,230.53    | -3,329.47     | -934.27     | 2,864.92    | 2,971.81       | 5.01              | 2,101,878.33     | 1,338,037.57    |
| 6,241.00        | 92.42      | 87.66      | 4,229.43    | -3,330.57     | -932.74     | 2,895.86    | 3,002.18       | 4.06              | 2,101,879.52     | 1,338,068.53    |
| 6,273.00        | 93.39      | 88.50      | 4,227.81    | -3,332.19     | -931.67     | 2,927.80    | 3,033.61       | 4.01              | 2,101,880.24     | 1,338,100.48    |
| 6,304.00        | 91.80      | 88.29      | 4,226.41    | -3,333.59     | -930.81     | 2,958.76    | 3,064.09       | 5.17              | 2,101,880.78     | 1,338,131.44    |
| 6,336.00        | 91.71      | 88.98      | 4,225.43    | -3,334.57     | -930.04     | 2,990.73    | 3,095.60       | 2.17              | 2,101,881.19     | 1,338,163.42    |
| 6,367.00        | 88.55      | 89.11      | 4,225.36    | -3,334.64     | -929.53     | 3,021.72    | 3,126.17       | 10.20             | 2,101,881.37     | 1,338,194.42    |
| 6,398.00        | 87.85      | 88.35      | 4,226.33    | -3,333.67     | -928.84     | 3,052.70    | 3,156.70       | 3.33              | 2,101,881.72     | 1,338,225.40    |
| 6,429.00        | 89.78      | 88.40      | 4,226.97    | -3,333.03     | -927.96     | 3,083.68    | 3,187.21       | 6.23              | 2,101,882.26     | 1,338,256.39    |

**Company:** Energen Resources  
**Project:** SJBR- NE Sec 32, T30N, R4W  
**Site:** Mestenas Mesa  
**Well:** Carson #302  
**Wellbore:** UPE Lateral  
**Design:** UPE Lateral

**Local Co-ordinate Reference:** Well Carson #302  
**TVD Reference:** WELL @ 7560.00ft (RKB 12')  
**MD Reference:** WELL @ 7560.00ft (RKB 12')  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

**Survey**

| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 6,461.00   | 91.10      | 88.52      | 4,226.73    | -3,333.27     | -927.10     | 3,115.67    | 3,218.72       | 4.14              | 2,101,882.77     | 1,338,288.38    |
| 6,491.00   | 91.19      | 88.01      | 4,226.13    | -3,333.87     | -926.19     | 3,145.65    | 3,248.23       | 1.73              | 2,101,883.35     | 1,338,318.37    |
| 6,523.00   | 90.84      | 87.57      | 4,225.56    | -3,334.44     | -924.96     | 3,177.62    | 3,279.66       | 1.76              | 2,101,884.24     | 1,338,350.35    |
| 6,554.00   | 90.75      | 87.32      | 4,225.13    | -3,334.87     | -923.58     | 3,208.58    | 3,310.08       | 0.86              | 2,101,885.28     | 1,338,381.33    |
| 6,585.00   | 91.19      | 87.39      | 4,224.61    | -3,335.39     | -922.15     | 3,239.55    | 3,340.49       | 1.44              | 2,101,886.37     | 1,338,412.31    |
| 6,617.00   | 89.96      | 88.30      | 4,224.28    | -3,335.72     | -920.95     | 3,271.52    | 3,371.93       | 4.78              | 2,101,887.23     | 1,338,444.29    |
| 6,648.00   | 90.13      | 89.67      | 4,224.26    | -3,335.74     | -920.40     | 3,302.51    | 3,402.50       | 4.45              | 2,101,887.44     | 1,338,475.29    |
| 6,679.00   | 90.84      | 89.48      | 4,224.00    | -3,336.00     | -920.17     | 3,333.51    | 3,433.12       | 2.37              | 2,101,887.33     | 1,338,506.29    |
| 6,711.00   | 92.07      | 90.31      | 4,223.18    | -3,336.82     | -920.11     | 3,365.50    | 3,464.75       | 4.64              | 2,101,887.04     | 1,338,538.28    |
| 6,742.00   | 90.66      | 91.26      | 4,222.45    | -3,337.55     | -920.53     | 3,396.49    | 3,495.46       | 5.48              | 2,101,886.28     | 1,338,569.26    |
| 6,774.00   | 89.34      | 91.55      | 4,222.45    | -3,337.55     | -921.32     | 3,428.48    | 3,527.21       | 4.22              | 2,101,885.15     | 1,338,601.24    |
| 6,805.00   | 88.99      | 91.18      | 4,222.90    | -3,337.10     | -922.06     | 3,459.47    | 3,557.96       | 1.64              | 2,101,884.07     | 1,338,632.22    |
| 6,837.00   | 89.78      | 91.06      | 4,223.24    | -3,336.76     | -922.68     | 3,491.46    | 3,589.69       | 2.50              | 2,101,883.10     | 1,338,664.20    |
| 6,868.00   | 90.75      | 91.79      | 4,223.10    | -3,336.90     | -923.45     | 3,522.45    | 3,620.46       | 3.92              | 2,101,881.99     | 1,338,695.18    |
| 6,899.00   | 89.78      | 91.17      | 4,222.95    | -3,337.05     | -924.25     | 3,553.44    | 3,651.22       | 3.71              | 2,101,880.85     | 1,338,726.16    |
| 6,930.00   | 89.69      | 90.21      | 4,223.10    | -3,336.90     | -924.63     | 3,584.43    | 3,681.93       | 3.11              | 2,101,880.14     | 1,338,757.15    |
| 6,962.00   | 88.99      | 89.28      | 4,223.47    | -3,336.53     | -924.48     | 3,616.43    | 3,713.55       | 3.64              | 2,101,879.94     | 1,338,789.15    |
| 6,994.00   | 89.25      | 88.65      | 4,223.96    | -3,336.04     | -923.91     | 3,648.42    | 3,745.10       | 2.13              | 2,101,880.16     | 1,338,821.14    |
| 7,025.00   | 89.25      | 88.67      | 4,224.36    | -3,335.64     | -923.18     | 3,679.41    | 3,775.64       | 0.06              | 2,101,880.55     | 1,338,852.14    |
| 7,056.00   | 89.69      | 89.18      | 4,224.65    | -3,335.35     | -922.60     | 3,710.40    | 3,806.21       | 2.17              | 2,101,880.80     | 1,338,883.13    |
| 7,088.00   | 91.36      | 89.15      | 4,224.36    | -3,335.64     | -922.13     | 3,742.40    | 3,837.78       | 5.22              | 2,101,880.91     | 1,338,915.13    |
| 7,119.00   | 91.89      | 89.61      | 4,223.48    | -3,336.52     | -921.80     | 3,773.38    | 3,868.37       | 2.26              | 2,101,880.91     | 1,338,946.12    |
| 7,150.00   | 92.24      | 89.10      | 4,222.36    | -3,337.64     | -921.45     | 3,804.36    | 3,898.95       | 1.99              | 2,101,880.92     | 1,338,977.10    |
| 7,182.00   | 88.46      | 89.04      | 4,222.17    | -3,337.83     | -920.93     | 3,836.35    | 3,930.51       | 11.81             | 2,101,881.09     | 1,339,009.09    |
| 7,213.00   | 88.02      | 89.12      | 4,223.12    | -3,336.88     | -920.43     | 3,867.33    | 3,961.08       | 1.44              | 2,101,881.25     | 1,339,040.08    |
| 7,245.00   | 88.55      | 89.33      | 4,224.08    | -3,335.92     | -920.00     | 3,899.31    | 3,992.64       | 1.78              | 2,101,881.34     | 1,339,072.06    |
| 7,276.00   | 89.25      | 89.63      | 4,224.67    | -3,335.33     | -919.72     | 3,930.31    | 4,023.25       | 2.46              | 2,101,881.28     | 1,339,103.05    |

**Company:** Energen Resources  
**Project:** SJBR- NE Sec 32, T30N, R4W  
**Site:** Mestenas Mesa  
**Well:** Carson #302  
**Wellbore:** UPE Lateral  
**Design:** UPE Lateral

**Local Co-ordinate Reference:** Well Carson #302  
**TVD Reference:** WELL @ 7560.00ft (RKB 12')  
**MD Reference:** WELL @ 7560.00ft (RKB 12')  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

**Survey**

| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 7,307.00   | 89.52      | 89.75      | 4,225.00    | -3,335.00     | -919.55     | 3,961.30    | 4,053.88       | 0.95              | 2,101,881.11     | 1,339,134.05    |
| 7,339.00   | 91.19      | 89.18      | 4,224.81    | -3,335.19     | -919.25     | 3,993.30    | 4,085.48       | 5.51              | 2,101,881.06     | 1,339,166.05    |
| 7,370.00   | 90.13      | 90.04      | 4,224.45    | -3,335.55     | -919.04     | 4,024.30    | 4,116.10       | 4.40              | 2,101,880.94     | 1,339,197.05    |
| 7,401.00   | 90.40      | 89.89      | 4,224.30    | -3,335.70     | -919.02     | 4,055.30    | 4,146.75       | 1.00              | 2,101,880.62     | 1,339,228.05    |
| 7,433.00   | 89.87      | 90.49      | 4,224.23    | -3,335.77     | -919.13     | 4,087.30    | 4,178.42       | 2.50              | 2,101,880.16     | 1,339,260.04    |
| 7,464.00   | 88.81      | 90.37      | 4,224.59    | -3,335.41     | -919.36     | 4,118.29    | 4,209.10       | 3.44              | 2,101,879.59     | 1,339,291.03    |
| 7,496.00   | 88.72      | 90.89      | 4,225.28    | -3,334.72     | -919.71     | 4,150.28    | 4,240.79       | 1.65              | 2,101,878.89     | 1,339,323.02    |
| 7,528.00   | 90.75      | 91.12      | 4,225.42    | -3,334.58     | -920.27     | 4,182.28    | 4,272.51       | 6.38              | 2,101,877.98     | 1,339,355.00    |
| 7,557.00   | 89.52      | 91.93      | 4,225.36    | -3,334.64     | -921.04     | 4,211.27    | 4,301.30       | 5.08              | 2,101,876.90     | 1,339,383.98    |
| 7,590.00   | 88.46      | 92.14      | 4,225.94    | -3,334.06     | -922.22     | 4,244.24    | 4,334.08       | 3.27              | 2,101,875.36     | 1,339,416.94    |
| 7,621.00   | 88.11      | 92.76      | 4,226.87    | -3,333.13     | -923.54     | 4,275.20    | 4,364.89       | 2.30              | 2,101,873.70     | 1,339,447.88    |
| 7,653.00   | 89.08      | 91.91      | 4,227.65    | -3,332.35     | -924.84     | 4,307.16    | 4,396.69       | 4.03              | 2,101,872.05     | 1,339,479.83    |
| 7,684.00   | 89.69      | 92.56      | 4,227.98    | -3,332.02     | -926.05     | 4,338.13    | 4,427.51       | 2.88              | 2,101,870.51     | 1,339,510.79    |
| 7,715.00   | 90.66      | 92.60      | 4,227.89    | -3,332.11     | -927.45     | 4,369.10    | 4,458.34       | 3.13              | 2,101,868.77     | 1,339,541.74    |
| 7,746.00   | 90.04      | 92.41      | 4,227.70    | -3,332.30     | -928.80     | 4,400.07    | 4,489.17       | 2.09              | 2,101,867.08     | 1,339,572.69    |
| 7,777.00   | 90.84      | 92.30      | 4,227.46    | -3,332.54     | -930.08     | 4,431.04    | 4,519.99       | 2.60              | 2,101,865.47     | 1,339,603.65    |
| 7,808.00   | 91.36      | 91.64      | 4,226.87    | -3,333.13     | -931.14     | 4,462.02    | 4,550.78       | 2.71              | 2,101,864.07     | 1,339,634.61    |
| 7,839.00   | 91.63      | 91.62      | 4,226.06    | -3,333.94     | -932.02     | 4,493.00    | 4,581.54       | 0.87              | 2,101,862.85     | 1,339,665.58    |
| 7,869.00   | 90.75      | 92.52      | 4,225.43    | -3,334.57     | -933.11     | 4,522.97    | 4,611.34       | 4.20              | 2,101,861.44     | 1,339,695.54    |
| 7,901.00   | 90.92      | 92.89      | 4,224.97    | -3,335.03     | -934.62     | 4,554.93    | 4,643.18       | 1.27              | 2,101,859.58     | 1,339,727.48    |
| 7,932.00   | 91.19      | 93.47      | 4,224.40    | -3,335.60     | -936.34     | 4,585.88    | 4,674.03       | 2.06              | 2,101,857.52     | 1,339,758.41    |
| 7,964.00   | 89.69      | 91.89      | 4,224.15    | -3,335.85     | -937.83     | 4,617.84    | 4,705.87       | 6.81              | 2,101,855.68     | 1,339,790.35    |
| 7,995.00   | 88.90      | 91.78      | 4,224.53    | -3,335.47     | -938.83     | 4,648.82    | 4,736.65       | 2.57              | 2,101,854.35     | 1,339,821.32    |
| 8,027.00   | 88.90      | 89.60      | 4,225.15    | -3,334.85     | -939.21     | 4,680.81    | 4,768.34       | 6.81              | 2,101,853.62     | 1,339,853.30    |
| 8,058.00   | 89.25      | 88.88      | 4,225.65    | -3,334.35     | -938.80     | 4,711.80    | 4,798.93       | 2.58              | 2,101,853.69     | 1,339,884.30    |
| 8,090.00   | 89.96      | 88.18      | 4,225.87    | -3,334.13     | -937.98     | 4,743.79    | 4,830.45       | 3.12              | 2,101,854.16     | 1,339,916.29    |
| 8,121.00   | 90.92      | 88.55      | 4,225.63    | -3,334.37     | -937.09     | 4,774.78    | 4,860.96       | 3.32              | 2,101,854.71     | 1,339,947.29    |

**Company:** Energen Resources  
**Project:** SJBR- NE Sec 32, T30N, R4W  
**Site:** Mestenas Mesa  
**Well:** Carson #302  
**Wellbore:** UPE Lateral  
**Design:** UPE Lateral

**Local Co-ordinate Reference:** Well Carson #302  
**TVD Reference:** WELL @ 7560.00ft (RKB 12")  
**MD Reference:** WELL @ 7560.00ft (RKB 12")  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

**Survey**

| MD<br>(ft)      | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|-----------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 8,153.00        | 91.99      | 88.50      | 4,224.82    | -3,335.18     | -936.27     | 4,806.76    | 4,892.46       | 3.35              | 2,101,855.18     | 1,339,979.27    |
| 8,184.00        | 93.65      | 88.24      | 4,223.29    | -3,336.71     | -935.39     | 4,837.71    | 4,922.94       | 5.42              | 2,101,855.73     | 1,340,010.23    |
| 8,216.00        | 93.39      | 87.93      | 4,221.33    | -3,338.67     | -934.32     | 4,869.63    | 4,954.35       | 1.26              | 2,101,856.45     | 1,340,042.16    |
| 8,246.00        | 92.33      | 87.27      | 4,219.83    | -3,340.17     | -933.07     | 4,899.56    | 4,983.77       | 4.16              | 2,101,857.38     | 1,340,072.11    |
| 8,278.00        | 91.80      | 86.66      | 4,218.68    | -3,341.32     | -931.38     | 4,931.50    | 5,015.10       | 2.52              | 2,101,858.72     | 1,340,104.06    |
| 8,309.00        | 91.98      | 86.31      | 4,217.65    | -3,342.35     | -929.48     | 4,962.42    | 5,045.40       | 1.27              | 2,101,860.28     | 1,340,135.00    |
| 8,363.00        | 91.98      | 86.31      | 4,215.79    | -3,344.21     | -926.00     | 5,016.28    | 5,098.14       | 0.00              | 2,101,863.17     | 1,340,188.89    |
| <b>BHL ST01</b> |            |            |             |               |             |             |                |                   |                  |                 |

**Company:** Energen Resources  
**Project:** SJBR- NE Sec 32, T30N, R4W  
**Site:** Mestenas Mesa  
**Well:** Carson #302  
**Wellbore:** UPE Lateral  
**Design:** UPE Lateral

**Local Co-ordinate Reference:** Well Carson #302  
**TVD Reference:** WELL @ 7560.00ft (RKB 12')  
**MD Reference:** WELL @ 7560.00ft (RKB 12')  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 2003.16 Single User Db

**Targets**

| Target Name<br>- hit/miss target<br>- Shape                                                                     | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Northing<br>(ft) | Easting<br>(ft) | Latitude         | Longitude         |
|-----------------------------------------------------------------------------------------------------------------|------------------|-----------------|-------------|---------------|---------------|------------------|-----------------|------------------|-------------------|
| PBHL Lateral<br>- survey misses by 1118.76ft at 8363.00ft MD (4215.79 TVD, -926.00 N, 5016.28 E)<br>- Point     | 0.00             | 0.00            | 4,223.00    | -920.20       | 6,135.00      | 2,101,856.788    | 1,341,307.613   | 36° 46' 18.895 N | 107° 16' 16.596 W |
| KOP<br>- survey misses by 149.97ft at 1914.18ft MD (1892.49 TVD, 131.43 N, 70.07 E)<br>- Point                  | 0.00             | 0.00            | 1,875.00    | 0.00          | 0.00          | 2,102,843.751    | 1,335,182.999   | 36° 46' 28.000 N | 107° 17' 32.000 W |
| Enter Fruitland FM<br>- survey misses by 10.36ft at 4750.39ft MD (4066.04 TVD, -819.28 N, 1434.13 E)<br>- Point | 0.00             | 0.00            | 4,070.00    | -828.22       | 1,430.71      | 2,101,999.998    | 1,336,604.604   | 36° 46' 19.810 N | 107° 17' 14.416 W |
| Land Curve/TOP TGT<br>- survey misses by 7.04ft at 5618.79ft MD (4216.76 TVD, -913.20 N, 2275.46 E)<br>- Point  | 0.00             | 0.00            | 4,218.00    | -920.12       | 2,275.02      | 2,101,898.908    | 1,337,447.863   | 36° 46' 18.901 N | 107° 17' 4.038 W  |

**Survey Annotations**

| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Local Coordinates |               | Comment       |
|---------------------------|---------------------------|-------------------|---------------|---------------|
|                           |                           | +N/-S<br>(ft)     | +E/-W<br>(ft) |               |
| 4,969.00                  | 4,145.27                  | -846.85           | 1,635.81      | BOW/ KOP ST01 |
| 5,588.00                  | 4,215.67                  | -911.52           | 2,244.74      | Coal Top      |
| 8,363.00                  | 4,215.79                  | -926.00           | 5,016.28      | BHL ST01      |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_