



A Schlumberger Company

***DIRECTIONAL SURVEY REPORT***

30 - 015 - 38665

**YATES PETROLEUM**

***MELSON ZS FEDERAL 2H***

***EDDY COUNTY, NEW MEXICO***

**PREPARED BY: FRANCISCO SINISTERRA**

Pathfinder

6213 WCR 112  
Midland, Texas 79706  
Tel (432)687-1647  
Fax (432)687-1544



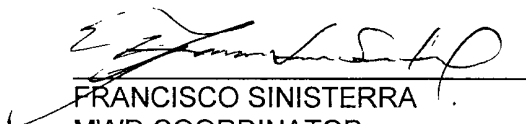
DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:  
A) GEORGE SAKAS
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 07-16-11 TO 08-05-11
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

YATES PETROLEUM  
MELSON ZS FEDERAL 2H  
EDDY COUNTY, NM  
RIG: PATRIOT 5

9. SURVEY CERTIFIED FROM: 849 TO 12131 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4586.56 FEET ON A BEARING OF 359.65 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 12190 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

  
FRANCISCO SINISTERRA  
MWD COORDINATOR

# PathFinder Energy Services, Inc.

## BHL Report

Page 01/01  
Tie-in Date: 07/16/2011  
Date Completed: 08/05/2011

YATES PETROLEUM CORPORATION  
MELSON ZS FEDERAL #2H  
EDDY COUNTY, NM  
Rig: PATRIOT 5  
PathFinder Office Supervisor: STEVE BIBB  
PathFinder Field Engineers: GEORGE SAKAS  
RICHARD PAGE

Survey Horiz. Reference: WELLHEAD  
Ref Coordinates: LAT: 32.3.2.8010 N LON: 103.53.49.2231 W  
GRID Reference: NAD83 new mexico east Transverse Mercator  
Ref GRID Coord: X: 676519.6140 Y: 382484.1970  
North Aligned To: GRID NORTH  
Total Magnetic Correction: 7.48° EAST TO GRID  
Vertical Section Plane: 359.81  
Survey Vert. Reference: 3105.50' Rotary Table To Ground  
Altitude: 3079.00' Ground To MSL

|                       |                |             |
|-----------------------|----------------|-------------|
| Measured Depth        | 12190.00       | (feet)      |
| Inclination           | 92.07          | (deg)       |
| Azimuth               | 1.18           | (deg)       |
| True Vertical Depth   | 7804.25        | (feet)      |
| Vertical Section      | 4586.54        | (feet)      |
| Survey X cord         | 676491.66      | (feet)      |
| Survey Y cord         | 387070.67      | (feet)      |
| Survey Lat            | 32.06338614 N  | (deg)       |
| Survey Lon            | 103.89703682 W | (deg)       |
| Rectangular Corr. N/S | 4586.48 N      | (feet)      |
| Rectangular Corr. E/W | 27.95 W        | (feet)      |
| Closure Distance      | 4586.56        | (feet)      |
| Direction of Closure  | 359.65         | (deg)       |
| Dogleg Severity       | 0.00           | (deg/100ft) |

## PathFinder Energy Services, Inc.

## Survey Report

YATES PETROLEUM CORPORATION

MELSON ZS FEDERAL #2H

EDDY COUNTY, NM

Rig: PATRIOT 5

PathFinder Office Supervisor: STEVE BIBB

PathFinder Field Engineers: GEORGE SAKAS

RICHARD PAGE

Survey Horiz. Reference: WELLHEAD

Ref Coordinates: LAT: 32.3.2.8010 N LON: 103.53.49.2231 W

GRID Reference: NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 676519.6140 Y: 382484.1970

North Aligned To: GRID NORTH

Total Magnetic Correction: 7.48° EAST TO GRID

Vertical Section Plane: 359.81

Survey Vert. Reference: 3105.50' Rotary Table To Ground

Altitude: 3079.00' Ground To MSL

Survey Calculations by RX5 V6.03E using Minimum Curvature

| Measured<br>Depth<br>(ft)                          | Incl<br>(deg) | Drift<br>Dir.<br>(deg) | TVD<br>(ft) | Course<br>Length<br>(ft) | Vertical<br>Section<br>(ft) | TOTAL<br>Rectangular Offsets<br>(ft) (ft) |         | Closure<br>Dist Dir<br>(ft) (deg) |        | DLS<br>(dg/100ft) |
|----------------------------------------------------|---------------|------------------------|-------------|--------------------------|-----------------------------|-------------------------------------------|---------|-----------------------------------|--------|-------------------|
| THE FOLLOWING SURVEYS ARE MULTI SHOT GYRO SURVEYS. |               |                        |             |                          |                             |                                           |         |                                   |        |                   |
| 200.00                                             | 0.50          | 246.28                 | 200.00      | 0.00                     | -0.34                       | 0.35 S                                    | 0.80 W  | 0.87@                             | 246.59 | 0.00              |
| 400.00                                             | 0.50          | 285.13                 | 399.99      | 200.00                   | -0.46                       | 0.47 S                                    | 2.44 W  | 2.49@                             | 259.11 | 0.17              |
| 600.00                                             | 1.00          | 270.98                 | 599.97      | 200.00                   | -0.20                       | 0.21 S                                    | 5.03 W  | 5.03@                             | 267.58 | 0.27              |
| ** TIE IN TO MULTI SHOT SURVEY AT 800'MD.          |               |                        |             |                          |                             |                                           |         |                                   |        |                   |
| 800.00                                             | 0.75          | 243.83                 | 799.95      | 200.00                   | -0.73                       | 0.76 S                                    | 7.95 W  | 7.99@                             | 264.54 | 0.24              |
| THE FOLLOWING ARE PATHFINDER MWD SURVEYS.          |               |                        |             |                          |                             |                                           |         |                                   |        |                   |
| 849.00                                             | 0.62          | 261.13                 | 848.95      | 49.00                    | -0.91                       | 0.94 S                                    | 8.50 W  | 8.55@                             | 263.67 | 0.50              |
| 943.00                                             | 0.88          | 273.02                 | 942.94      | 94.00                    | -0.95                       | 0.98 S                                    | 9.72 W  | 9.77@                             | 264.23 | 0.32              |
| 1038.00                                            | 1.14          | 277.60                 | 1037.92     | 95.00                    | -0.78                       | 0.82 S                                    | 11.39 W | 11.42@                            | 265.89 | 0.29              |
| 1131.00                                            | 0.79          | 53.13                  | 1130.92     | 93.00                    | -0.27                       | 0.31 S                                    | 11.79 W | 11.80@                            | 268.48 | 1.93              |
| 1226.00                                            | 2.02          | 69.85                  | 1225.89     | 95.00                    | 0.69                        | 0.66 N                                    | 9.70 W  | 9.72@                             | 273.88 | 1.35              |
| 1320.00                                            | 1.58          | 73.08                  | 1319.84     | 94.00                    | 1.63                        | 1.61 N                                    | 6.90 W  | 7.09@                             | 283.09 | 0.48              |
| 1415.00                                            | 0.35          | 73.53                  | 1414.83     | 95.00                    | 2.09                        | 2.07 N                                    | 5.37 W  | 5.75@                             | 291.07 | 1.29              |
| 1509.00                                            | 0.44          | 127.06                 | 1508.82     | 94.00                    | 1.95                        | 1.93 N                                    | 4.81 W  | 5.18@                             | 291.90 | 0.39              |
| 1604.00                                            | 0.53          | 136.71                 | 1603.82     | 95.00                    | 1.41                        | 1.39 N                                    | 4.21 W  | 4.44@                             | 288.29 | 0.13              |
| 1698.00                                            | 0.44          | 165.38                 | 1697.82     | 94.00                    | 0.74                        | 0.73 N                                    | 3.83 W  | 3.89@                             | 280.77 | 0.27              |
| 1793.00                                            | 0.26          | 156.30                 | 1792.82     | 95.00                    | 0.19                        | 0.18 N                                    | 3.65 W  | 3.65@                             | 272.78 | 0.20              |
| 1887.00                                            | 0.35          | 78.22                  | 1886.81     | 94.00                    | 0.05                        | 0.04 N                                    | 3.28 W  | 3.28@                             | 270.71 | 0.42              |
| 1981.00                                            | 0.70          | 284.62                 | 1980.81     | 94.00                    | 0.26                        | 0.24 N                                    | 3.55 W  | 3.56@                             | 273.93 | 1.09              |
| 2075.00                                            | 1.14          | 263.46                 | 2074.80     | 94.00                    | 0.30                        | 0.28 N                                    | 5.04 W  | 5.05@                             | 273.21 | 0.58              |
| 2169.00                                            | 0.70          | 246.71                 | 2168.79     | 94.00                    | -0.03                       | 0.05 S                                    | 6.50 W  | 6.50@                             | 269.55 | 0.54              |
| 2264.00                                            | 1.06          | 247.36                 | 2263.78     | 95.00                    | -0.59                       | 0.62 S                                    | 7.84 W  | 7.86@                             | 265.49 | 0.38              |
| 2358.00                                            | 0.26          | 125.76                 | 2357.77     | 94.00                    | -1.05                       | 1.08 S                                    | 8.47 W  | 8.54@                             | 262.74 | 1.29              |
| 2452.00                                            | 0.44          | 113.24                 | 2451.77     | 94.00                    | -1.32                       | 1.35 S                                    | 7.96 W  | 8.08@                             | 260.41 | 0.21              |
| 2546.00                                            | 1.23          | 97.63                  | 2545.76     | 94.00                    | -1.60                       | 1.62 S                                    | 6.63 W  | 6.83@                             | 256.26 | 0.87              |

# PathFinder Energy Services, Inc.

## Survey Report

YATES PETROLEUM CORPORATION  
MELSON ZS FEDERAL #2H  
EDDY COUNTY, NM  
RIG:PATRIOT 5

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| Measured<br>Depth<br>(ft) | Incl<br>(deg) | Drift<br>Dir.<br>(deg) | TVD<br>(ft) | Course<br>Length<br>(ft) | Vertical<br>Section<br>(ft) | TOTAL<br>Rectangular Offsets<br>(ft) (ft) |        | Closure<br>Dist Dir<br>(ft) (deg) |        | DLS<br>(dg/100ft) |
|---------------------------|---------------|------------------------|-------------|--------------------------|-----------------------------|-------------------------------------------|--------|-----------------------------------|--------|-------------------|
| 2640.00                   | 0.26          | 304.96                 | 2639.75     | 94.00                    | -1.61                       | 1.63 S                                    | 5.81 W | 6.03@                             | 254.29 | 1.56              |
| 2734.00                   | 0.26          | 273.24                 | 2733.75     | 94.00                    | -1.48                       | 1.50 S                                    | 6.20 W | 6.37@                             | 256.40 | 0.15              |
| 2828.00                   | 0.70          | 104.23                 | 2827.75     | 94.00                    | -1.61                       | 1.63 S                                    | 5.85 W | 6.07@                             | 254.45 | 1.02              |
| 2921.00                   | 1.76          | 107.19                 | 2920.73     | 93.00                    | -2.18                       | 2.19 S                                    | 3.94 W | 4.50@                             | 240.91 | 1.14              |
| 3015.00                   | 0.97          | 88.01                  | 3014.70     | 94.00                    | -2.58                       | 2.59 S                                    | 1.76 W | 3.13@                             | 214.24 | 0.96              |
| 3109.00                   | 1.67          | 102.40                 | 3108.68     | 94.00                    | -2.86                       | 2.86 S                                    | 0.37 E | 2.88@                             | 172.60 | 0.82              |
| 3203.00                   | 1.41          | 108.98                 | 3202.64     | 94.00                    | -3.54                       | 3.53 S                                    | 2.80 E | 4.50@                             | 141.52 | 0.33              |
| 3297.00                   | 0.97          | 116.64                 | 3296.62     | 94.00                    | -4.27                       | 4.26 S                                    | 4.61 E | 6.27@                             | 132.75 | 0.50              |
| 3392.00                   | 0.18          | 326.47                 | 3391.62     | 95.00                    | -4.51                       | 4.49 S                                    | 5.24 E | 6.91@                             | 130.60 | 1.19              |
| 3447.00                   | 0.18          | 290.95                 | 3446.62     | 55.00                    | -4.41                       | 4.39 S                                    | 5.12 E | 6.74@                             | 130.65 | 0.20              |
| 3643.00                   | 0.09          | 334.98                 | 3642.62     | 196.00                   | -4.16                       | 4.14 S                                    | 4.76 E | 6.31@                             | 131.02 | 0.07              |
| 3769.00                   | 0.18          | 73.02                  | 3768.62     | 126.00                   | -4.01                       | 3.99 S                                    | 4.91 E | 6.33@                             | 129.13 | 0.17              |
| 3957.00                   | 0.35          | 165.50                 | 3956.61     | 188.00                   | -4.48                       | 4.46 S                                    | 5.34 E | 6.96@                             | 129.92 | 0.21              |
| 4146.00                   | 0.44          | 222.85                 | 4145.61     | 189.00                   | -5.57                       | 5.56 S                                    | 4.99 E | 7.47@                             | 138.09 | 0.20              |
| 4334.00                   | 0.53          | 213.88                 | 4333.60     | 188.00                   | -6.82                       | 6.81 S                                    | 4.01 E | 7.90@                             | 149.49 | 0.06              |
| 4523.00                   | 0.44          | 222.51                 | 4522.60     | 189.00                   | -8.08                       | 8.07 S                                    | 3.03 E | 8.62@                             | 159.39 | 0.06              |
| 4710.00                   | 0.62          | 238.39                 | 4709.59     | 187.00                   | -9.13                       | 9.13 S                                    | 1.69 E | 9.28@                             | 169.53 | 0.12              |
| 4805.00                   | 0.97          | 352.36                 | 4804.58     | 95.00                    | -8.60                       | 8.60 S                                    | 1.14 E | 8.67@                             | 172.43 | 1.42              |
| 4993.00                   | 0.79          | 8.66                   | 4992.56     | 188.00                   | -5.74                       | 5.74 S                                    | 1.13 E | 5.85@                             | 168.90 | 0.16              |
| 5181.00                   | 0.79          | 341.99                 | 5180.55     | 188.00                   | -3.23                       | 3.23 S                                    | 0.92 E | 3.36@                             | 164.08 | 0.19              |
| 5371.00                   | 0.53          | 334.84                 | 5370.53     | 190.00                   | -1.19                       | 1.19 S                                    | 0.14 E | 1.19@                             | 173.18 | 0.14              |
| 5559.00                   | 0.18          | 0.07                   | 5558.53     | 188.00                   | -0.10                       | 0.10 S                                    | 0.23 W | 0.25@                             | 245.52 | 0.20              |
| 5748.00                   | 0.09          | 230.49                 | 5747.53     | 189.00                   | 0.10                        | 0.10 N                                    | 0.34 W | 0.36@                             | 286.14 | 0.13              |
| 5936.00                   | 0.53          | 124.91                 | 5935.53     | 188.00                   | -0.49                       | 0.49 S                                    | 0.26 E | 0.56@                             | 152.41 | 0.30              |
| 6124.00                   | 0.18          | 134.99                 | 6123.52     | 188.00                   | -1.20                       | 1.20 S                                    | 1.18 E | 1.68@                             | 135.48 | 0.19              |
| 6313.00                   | 0.53          | 175.43                 | 6312.52     | 189.00                   | -2.29                       | 2.28 S                                    | 1.46 E | 2.71@                             | 147.39 | 0.22              |
| 6501.00                   | 0.62          | 214.35                 | 6500.51     | 188.00                   | -3.99                       | 3.99 S                                    | 0.95 E | 4.10@                             | 166.54 | 0.21              |
| 6690.00                   | 0.70          | 200.41                 | 6689.50     | 189.00                   | -5.91                       | 5.91 S                                    | 0.03 W | 5.91@                             | 180.25 | 0.09              |

# PathFinder Energy Services, Inc.

## Survey Report

YATES PETROLEUM CORPORATION  
MELSON ZS FEDERAL #2H  
EDDY COUNTY, NM  
RIG:PATRIOT 5

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| Measured<br>Depth<br>(ft) | Incl<br>(deg) | Drift<br>Dir.<br>(deg) | TVD<br>(ft) | Course<br>Length<br>(ft) | Vertical<br>Section<br>(ft) | TOTAL<br>Rectangular Offsets<br>(ft) (ft) |        | Closure<br>Dist Dir<br>(ft) (deg) |        | DLS<br>(dg/100ft) |
|---------------------------|---------------|------------------------|-------------|--------------------------|-----------------------------|-------------------------------------------|--------|-----------------------------------|--------|-------------------|
| 6878.00                   | 1.06          | 202.47                 | 6877.47     | 188.00                   | -8.59                       | 8.60 S                                    | 1.09 W | 8.67@                             | 187.23 | 0.19              |
| 6973.00                   | 0.18          | 218.25                 | 6972.47     | 95.00                    | -9.52                       | 9.53 S                                    | 1.52 W | 9.65@                             | 189.06 | 0.93              |
| 7067.00                   | 0.35          | 335.94                 | 7066.47     | 94.00                    | -9.37                       | 9.38 S                                    | 1.73 W | 9.54@                             | 190.43 | 0.49              |
| 7161.00                   | 0.26          | 296.15                 | 7160.47     | 94.00                    | -9.02                       | 9.02 S                                    | 2.04 W | 9.25@                             | 192.71 | 0.24              |
| 7255.00                   | 0.18          | 244.92                 | 7254.47     | 94.00                    | -8.98                       | 8.99 S                                    | 2.36 W | 9.30@                             | 194.71 | 0.22              |
| 7322.00                   | 1.41          | 345.55                 | 7321.46     | 67.00                    | -8.23                       | 8.24 S                                    | 2.66 W | 8.66@                             | 197.91 | 2.17              |
| 7353.00                   | 3.43          | 350.85                 | 7352.43     | 31.00                    | -6.94                       | 6.95 S                                    | 2.90 W | 7.54@                             | 202.67 | 6.55              |
| 7384.00                   | 6.77          | 353.45                 | 7383.30     | 31.00                    | -4.21                       | 4.22 S                                    | 3.26 W | 5.33@                             | 217.68 | 10.80             |
| 7416.00                   | 10.99         | 355.18                 | 7414.91     | 32.00                    | 0.71                        | 0.69 N                                    | 3.73 W | 3.80@                             | 280.53 | 13.21             |
| 7447.00                   | 15.21         | 356.03                 | 7445.10     | 31.00                    | 7.71                        | 7.70 N                                    | 4.26 W | 8.80@                             | 331.03 | 13.63             |
| 7478.00                   | 19.35         | 356.37                 | 7474.69     | 31.00                    | 16.90                       | 16.88 N                                   | 4.87 W | 17.57@                            | 343.91 | 13.36             |
| 7510.00                   | 22.95         | 357.48                 | 7504.53     | 32.00                    | 28.43                       | 28.41 N                                   | 5.48 W | 28.94@                            | 349.08 | 11.32             |
| 7541.00                   | 26.12         | 359.83                 | 7532.73     | 31.00                    | 41.30                       | 41.28 N                                   | 5.77 W | 41.68@                            | 352.05 | 10.70             |
| 7573.00                   | 29.63         | 1.46                   | 7561.01     | 32.00                    | 56.25                       | 56.23 N                                   | 5.58 W | 56.51@                            | 354.33 | 11.22             |
| 7604.00                   | 33.50         | 1.71                   | 7587.42     | 31.00                    | 72.47                       | 72.45 N                                   | 5.13 W | 72.63@                            | 355.95 | 12.49             |
| 7635.00                   | 37.11         | 1.41                   | 7612.72     | 31.00                    | 90.37                       | 90.36 N                                   | 4.65 W | 90.48@                            | 357.06 | 11.66             |
| 7667.00                   | 40.45         | 0.97                   | 7637.66     | 32.00                    | 110.41                      | 110.39 N                                  | 4.24 W | 110.48@                           | 357.80 | 10.47             |
| 7698.00                   | 44.32         | 0.10                   | 7660.55     | 31.00                    | 131.30                      | 131.29 N                                  | 4.05 W | 131.35@                           | 358.23 | 12.63             |
| 7729.00                   | 47.84         | 359.10                 | 7682.05     | 31.00                    | 153.62                      | 153.61 N                                  | 4.21 W | 153.67@                           | 358.43 | 11.59             |
| 7761.00                   | 51.53         | 358.16                 | 7702.75     | 32.00                    | 178.01                      | 178.00 N                                  | 4.80 W | 178.06@                           | 358.46 | 11.75             |
| 7792.00                   | 56.01         | 358.45                 | 7721.07     | 31.00                    | 203.00                      | 202.99 N                                  | 5.53 W | 203.06@                           | 358.44 | 14.47             |
| 7824.00                   | 60.94         | 0.37                   | 7737.80     | 32.00                    | 230.27                      | 230.25 N                                  | 5.80 W | 230.33@                           | 358.56 | 16.23             |
| 7855.00                   | 65.86         | 2.22                   | 7751.67     | 31.00                    | 257.97                      | 257.96 N                                  | 5.17 W | 258.01@                           | 358.85 | 16.74             |
| 7886.00                   | 71.14         | 3.27                   | 7763.03     | 31.00                    | 286.76                      | 286.75 N                                  | 3.78 W | 286.78@                           | 359.24 | 17.32             |
| 7918.00                   | 76.41         | 3.16                   | 7771.97     | 32.00                    | 317.43                      | 317.42 N                                  | 2.06 W | 317.43@                           | 359.63 | 16.47             |
| 7950.00                   | 79.67         | 2.51                   | 7778.60     | 32.00                    | 348.68                      | 348.68 N                                  | 0.51 W | 348.68@                           | 359.92 | 10.38             |
| 7981.00                   | 80.99         | 1.85                   | 7783.81     | 31.00                    | 379.22                      | 379.22 N                                  | 0.65 E | 379.22@                           | 0.10   | 4.75              |
| 8022.00                   | 83.45         | 1.07                   | 7789.36     | 41.00                    | 419.82                      | 419.82 N                                  | 1.68 E | 419.83@                           | 0.23   | 6.29              |

# PathFinder Energy Services, Inc.

## Survey Report

YATES PETROLEUM CORPORATION  
MELSON ZS FEDERAL #2H  
EDDY COUNTY, NM  
RIG:PATRIOT 5

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| Measured<br>Depth<br>(ft) | Incl<br>(deg) | Drift<br>Dir.<br>(deg) | TVD<br>(ft) | Course<br>Length<br>(ft) | Vertical<br>Section<br>(ft) | TOTAL<br>Rectangular Offsets<br>(ft) (ft) | Closure<br>Dist Dir<br>(ft) (deg) | DLS<br>(dg/100ft) |
|---------------------------|---------------|------------------------|-------------|--------------------------|-----------------------------|-------------------------------------------|-----------------------------------|-------------------|
| 8044.00                   | 85.65         | 0.41                   | 7791.45     | 22.00                    | 441.71                      | 441.72 N 1.97 E                           | 441.73@ 0.26                      | 10.44             |
| 8075.00                   | 88.55         | 359.36                 | 7793.02     | 31.00                    | 472.67                      | 472.68 N 1.90 E                           | 472.68@ 0.23                      | 9.95              |
| 8138.00                   | 89.78         | 359.33                 | 7793.93     | 63.00                    | 535.66                      | 535.67 N 1.18 E                           | 535.67@ 0.13                      | 1.95              |
| 8232.00                   | 89.87         | 359.45                 | 7794.22     | 94.00                    | 629.66                      | 629.66 N 0.18 E                           | 629.66@ 0.02                      | 0.16              |
| 8326.00                   | 90.31         | 359.52                 | 7794.07     | 94.00                    | 723.66                      | 723.66 N 0.66 W                           | 723.66@ 359.95                    | 0.47              |
| 8420.00                   | 89.69         | 359.26                 | 7794.07     | 94.00                    | 817.65                      | 817.65 N 1.66 W                           | 817.65@ 359.88                    | 0.72              |
| 8514.00                   | 90.31         | 359.36                 | 7794.07     | 94.00                    | 911.65                      | 911.64 N 2.79 W                           | 911.65@ 359.82                    | 0.67              |
| 8608.00                   | 90.75         | 359.87                 | 7793.20     | 94.00                    | 1005.64                     | 1005.64 N 3.43 W                          | 1005.64@ 359.80                   | 0.72              |
| 8703.00                   | 90.22         | 0.20                   | 7792.40     | 95.00                    | 1100.64                     | 1100.63 N 3.37 W                          | 1100.64@ 359.82                   | 0.66              |
| 8797.00                   | 90.31         | 0.55                   | 7791.96     | 94.00                    | 1194.63                     | 1194.63 N 2.75 W                          | 1194.63@ 359.87                   | 0.38              |
| 8891.00                   | 90.04         | 0.14                   | 7791.68     | 94.00                    | 1288.63                     | 1288.63 N 2.19 W                          | 1288.63@ 359.90                   | 0.52              |
| 8986.00                   | 90.57         | 0.75                   | 7791.17     | 95.00                    | 1383.62                     | 1383.62 N 1.45 W                          | 1383.62@ 359.94                   | 0.85              |
| 9080.00                   | 90.04         | 359.32                 | 7790.67     | 94.00                    | 1477.62                     | 1477.62 N 1.39 W                          | 1477.62@ 359.95                   | 1.62              |
| 9174.00                   | 90.57         | 359.82                 | 7790.17     | 94.00                    | 1571.61                     | 1571.61 N 2.10 W                          | 1571.62@ 359.92                   | 0.78              |
| 9268.00                   | 89.78         | 359.59                 | 7789.88     | 94.00                    | 1665.61                     | 1665.61 N 2.58 W                          | 1665.61@ 359.91                   | 0.87              |
| 9362.00                   | 89.60         | 359.74                 | 7790.39     | 94.00                    | 1759.61                     | 1759.61 N 3.13 W                          | 1759.61@ 359.90                   | 0.25              |
| 9456.00                   | 90.13         | 0.15                   | 7790.61     | 94.00                    | 1853.61                     | 1853.61 N 3.22 W                          | 1853.61@ 359.90                   | 0.71              |
| 9552.00                   | 88.90         | 0.37                   | 7791.43     | 96.00                    | 1949.60                     | 1949.60 N 2.78 W                          | 1949.60@ 359.92                   | 1.30              |
| 9647.00                   | 89.34         | 0.96                   | 7792.89     | 95.00                    | 2044.58                     | 2044.58 N 1.68 W                          | 2044.58@ 359.95                   | 0.78              |
| 9741.00                   | 88.11         | 0.26                   | 7794.98     | 94.00                    | 2138.54                     | 2138.55 N 0.68 W                          | 2138.55@ 359.98                   | 1.51              |
| 9835.00                   | 88.29         | 359.13                 | 7797.93     | 94.00                    | 2232.49                     | 2232.50 N 1.18 W                          | 2232.50@ 359.97                   | 1.22              |
| 9930.00                   | 88.64         | 358.06                 | 7800.48     | 95.00                    | 2327.44                     | 2327.44 N 3.51 W                          | 2327.44@ 359.91                   | 1.18              |
| 10025.00                  | 88.81         | 358.57                 | 7802.59     | 95.00                    | 2422.38                     | 2422.37 N 6.30 W                          | 2422.38@ 359.85                   | 0.57              |
| 10119.00                  | 89.25         | 358.09                 | 7804.18     | 94.00                    | 2516.34                     | 2516.32 N 9.04 W                          | 2516.34@ 359.79                   | 0.69              |
| 10213.00                  | 90.04         | 358.53                 | 7804.76     | 94.00                    | 2610.30                     | 2610.28 N 11.81 W                         | 2610.30@ 359.74                   | 0.96              |
| 10307.00                  | 90.22         | 359.26                 | 7804.55     | 94.00                    | 2704.29                     | 2704.26 N 13.63 W                         | 2704.29@ 359.71                   | 0.80              |
| 10401.00                  | 90.57         | 0.24                   | 7803.90     | 94.00                    | 2798.28                     | 2798.25 N 14.04 W                         | 2798.29@ 359.71                   | 1.11              |
| 10495.00                  | 91.63         | 1.21                   | 7802.10     | 94.00                    | 2892.25                     | 2892.23 N 12.85 W                         | 2892.25@ 359.75                   | 1.53              |

# PathFinder Energy Services, Inc.

## Survey Report

YATES PETROLEUM CORPORATION  
MELSON ZS FEDERAL #2H  
EDDY COUNTY, NM  
RIG:PATRIOT 5

Page 05/05

| Measured<br>Depth<br>(ft)                    | Incl<br>(deg) | Drift<br>Dir.<br>(deg) | TVD<br>(ft) | Course<br>Length<br>(ft) | Vertical<br>Section<br>(ft) | TOTAL<br>Rectangular Offsets<br>(ft) |         | Closure<br>Dist Dir<br>(ft) (deg) |        | DLS<br>(dg/100ft) |
|----------------------------------------------|---------------|------------------------|-------------|--------------------------|-----------------------------|--------------------------------------|---------|-----------------------------------|--------|-------------------|
| 10589.00                                     | 90.75         | 1.32                   | 7800.15     | 94.00                    | 2986.20                     | 2986.18 N                            | 10.77 W | 2986.20@                          | 359.79 | 0.94              |
| 10684.00                                     | 90.04         | 0.74                   | 7799.49     | 95.00                    | 3081.18                     | 3081.16 N                            | 9.07 W  | 3081.18@                          | 359.83 | 0.97              |
| 10779.00                                     | 89.78         | 0.27                   | 7799.64     | 95.00                    | 3176.17                     | 3176.16 N                            | 8.23 W  | 3176.17@                          | 359.85 | 0.57              |
| 10873.00                                     | 89.87         | 359.92                 | 7799.93     | 94.00                    | 3270.17                     | 3270.16 N                            | 8.07 W  | 3270.17@                          | 359.86 | 0.38              |
| 10967.00                                     | 88.20         | 359.03                 | 7801.51     | 94.00                    | 3364.15                     | 3364.14 N                            | 8.93 W  | 3364.15@                          | 359.85 | 2.01              |
| 11061.00                                     | 88.29         | 359.13                 | 7804.39     | 94.00                    | 3458.10                     | 3458.08 N                            | 10.44 W | 3458.10@                          | 359.83 | 0.14              |
| 11156.00                                     | 88.02         | 359.45                 | 7807.45     | 95.00                    | 3553.04                     | 3553.02 N                            | 11.62 W | 3553.04@                          | 359.81 | 0.44              |
| 11250.00                                     | 88.46         | 358.05                 | 7810.33     | 94.00                    | 3646.98                     | 3646.95 N                            | 13.67 W | 3646.98@                          | 359.79 | 1.56              |
| 11344.00                                     | 88.81         | 357.77                 | 7812.57     | 94.00                    | 3740.90                     | 3740.86 N                            | 17.10 W | 3740.90@                          | 359.74 | 0.48              |
| 11472.00                                     | 88.90         | 357.90                 | 7815.13     | 128.00                   | 3868.80                     | 3868.75 N                            | 21.93 W | 3868.81@                          | 359.68 | 0.12              |
| 11566.00                                     | 90.84         | 358.03                 | 7815.34     | 94.00                    | 3962.75                     | 3962.68 N                            | 25.27 W | 3962.76@                          | 359.63 | 2.07              |
| 11660.00                                     | 90.92         | 358.77                 | 7813.90     | 94.00                    | 4056.71                     | 4056.64 N                            | 27.89 W | 4056.73@                          | 359.61 | 0.79              |
| 11754.00                                     | 90.66         | 359.15                 | 7812.60     | 94.00                    | 4150.69                     | 4150.61 N                            | 29.60 W | 4150.72@                          | 359.59 | 0.49              |
| 11848.00                                     | 90.57         | 359.52                 | 7811.60     | 94.00                    | 4244.68                     | 4244.60 N                            | 30.69 W | 4244.71@                          | 359.59 | 0.41              |
| 11943.00                                     | 90.75         | 359.95                 | 7810.50     | 95.00                    | 4339.67                     | 4339.59 N                            | 31.13 W | 4339.70@                          | 359.59 | 0.49              |
| 12037.00                                     | 91.10         | 0.63                   | 7808.98     | 94.00                    | 4433.66                     | 4433.58 N                            | 30.65 W | 4433.68@                          | 359.60 | 0.81              |
| 12131.00                                     | 92.07         | 1.18                   | 7806.38     | 94.00                    | 4527.60                     | 4527.53 N                            | 29.17 W | 4527.62@                          | 359.63 | 1.19              |
| STRAIGHT LINE PROJECTION TO BIT @ 12190' MD. |               |                        |             |                          |                             |                                      |         |                                   |        |                   |
| 12190.00                                     | 92.07         | 1.18                   | 7804.25     | 59.00                    | 4586.54                     | 4586.48 N                            | 27.95 W | 4586.56@                          | 359.65 | 0.00              |

\*\* The survey data at tie-in point was furnished by a recognized survey company and entered as submitted. Survey stations above the tie-in point represent recalculated data by PathFinder Energy Services, Inc. and may reflect minor changes due to rounding differences between survey programs. Only survey stations taken by qualified PathFinder personnel are subject to certification.





A Schlumberger Company

**TIE-IN SURVEY INFORMATION SHEET****CLIENT INFORMATION**

|                           |                            |    |     |
|---------------------------|----------------------------|----|-----|
| CLIENT:                   | YATES PETROLEUM CORP       |    |     |
| LEASE / WELL No.:         | MELSON ZS FEDERAL          | 2H |     |
| WELL LOCATION:            | EDDY COUNTY                |    |     |
| COUNTY / STATE / COUNTRY: | EDDY                       | NM | USA |
| RIG:                      | PATRIOT 5                  |    |     |
| API WELL No.:             | 30-015-38665               |    |     |
| JOB No.:                  | 700003043-WT-WT            |    |     |
| P.O. / AFE No.:           | 11-024-0                   |    |     |
| DIRECTIONAL COMPANY:      | PATHFINDER ENERGY SERVICES |    |     |

**WELL SITE INFORMATION**

|                                  |                                                                                                        |                   |                    |
|----------------------------------|--------------------------------------------------------------------------------------------------------|-------------------|--------------------|
| TOTAL MAGNETIC CORRECTION (TMC): |                                                                                                        |                   |                    |
| On Wall Plat:                    | LWD Calculated:                                                                                        | 7.48              | Agreed Upon: 7.48  |
| X = 676519.614000                | Feet                                                                                                   | Y = 382484.197000 | Feet               |
| SITE LATITUDE:                   | 32.051878                                                                                              | SITE LONGITUDE:   | -103.897001        |
| GRID SYSTEM:                     | TRUE <input type="checkbox"/> UTM <input checked="" type="checkbox"/> LAMBERT <input type="checkbox"/> | ZONE:             | EASTERN NEW MEXICO |
| PROPOSED DRIFT DIRECTION:        | 359.81                                                                                                 |                   |                    |
| KELLY BUSHING ELEVATION:         | 26.5                                                                                                   |                   |                    |
| ALTITUDE:                        | 3079                                                                                                   | Feet              | WATER DEPTH: Feet  |

**TIE-IN SURVEY**

|                                  |                                                                     |                                        |                                                         |
|----------------------------------|---------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------|
| MEASURED DEPTH:                  | 800                                                                 |                                        |                                                         |
| DRIFT ANGLE:                     | 75                                                                  |                                        |                                                         |
| DRIFT DIRECTION:                 | 243.83                                                              |                                        |                                                         |
| TRUE VERTICAL DEPTH:             | 799.95                                                              |                                        |                                                         |
| VERTICAL SECTION:                | -0.74                                                               |                                        |                                                         |
| RECTANGULAR COORDINATE (N / S):  | -0.76                                                               |                                        |                                                         |
| RECTANGULAR COORDINATE (E / W):  | -7.95                                                               |                                        |                                                         |
| CLOSURE DISTANCE / DIRECTION:    | 0                                                                   | 0                                      |                                                         |
| SURVEY CALCULATION METHOD:       | AA <input type="checkbox"/>                                         | MC <input checked="" type="checkbox"/> | RC <input type="checkbox"/> BT <input type="checkbox"/> |
| SOURCE OF TIE-IN DATA (COMPANY): | M. S. ENERGY SERVICES                                               |                                        |                                                         |
| COPY OF TIE-IN SURVEY REPORT     | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                        |                                                         |

**WELL PLAN**

|                |      |              |           |
|----------------|------|--------------|-----------|
| KICKOFF DEPTH: | 7317 | TOTAL DEPTH: | 12,243' ✓ |
| KICKOFF ANGLE: | 0    | MAX ANGLE:   | 90        |

PES Engineers

G. SAKAS

R. PAGE

\*\*Signature of both field engineers required if applicable

Directional Driller:

I LEJEUNE

DATE 15-Jul-2011

MS ENERGY SERVICES  
ODESSA, TEXAS

GYROSCOPIC DIRECTIONAL SURVEY  
BY MINIMUM CURVATURE

FOR

\*\*\*\*\*  
\* **YATES PETROLEUM** \*  
\*\*\*\*\*

JOB NUMBER: SVCO-110840  
WELL NAME: MELSON ZS FEDERAL #2H  
LOCATION: EDDY COUNTY, NEW MEXICO  
SURVEY DATE: JULY 17,2011  
SURVEY ENGINEER: S. SMITH  
MAGNETIC DECLINATION: 07.48 GRID NORTH  
GYRO REFERENCE BEARING: GRID NORTH

VERTICAL SECTION CALCULATED IN A  
PROPOSAL DIRECTION OF: 359.81  
SURF. ELEVATION: 27

\*\*\*\*\*  
\*\*\*\*\* DEPTH MEASURED IN FEET \*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\* THIS DIRECTIONAL SURVEY REPORT IS \*\*\*\*\*  
\*\* CORRECT TO THE BEST OF MY KNOWLEDGE \*\*  
\* AND IS SUPPORTED BY ACTUAL FIELD DATA! \*  
\*\* \*\*  
COMMENTS: PATRIOT 5  
RKB 27'  
TBUSSELL@UYATESPETROLEUM.COM\*\*  
MIKEL@YATESPETROLEUM.COM \*\*  
\*\* \*\*\*\*\* \*\*  
\*\* COMPANY REPRESENTATIVE \*\*  
\*\*\*\*\*  
\*\*\*\*\*



# PathFinder Energy Services, Inc.

## Magnetic & Grid Calculations

Yates Petroleum Corporation  
Melson ZS Federal #2H  
Eddy County, NM  
Rig: Patriot 5

Mon Jul 11 16:32:54 2011

---

### Coordinates

|                   |                                               |
|-------------------|-----------------------------------------------|
| Latitude:         | 32.050778 N (32 deg. 3 min. 2.8010 sec.)      |
| Longitude:        | 103.897006 W (-103 deg. 53 min. 49.2231 sec.) |
| Elevation:        | 3105.50 feet.                                 |
| Calculation Date: | Jul/11/2011                                   |

---

### Magnetic Calculations

|                       |                  |
|-----------------------|------------------|
| Model:                | IGRF2010         |
| Dip Angle:            | 59.9671 degrees  |
| Total Magnetic Field: | 0.48470 gauss    |
| Magnetic Declination: | 7.712620 degrees |
| Horizontal Intensity: | 0.242593 gauss   |

To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.712620 Degs

---

### Transverse Mercator Grid Calculations NAD83

|                             |                                      |
|-----------------------------|--------------------------------------|
| Grid System:                | Transverse Mercator: new mexico east |
| Ellipsoid:                  | GRS80                                |
| X:                          | 676519.6140 feet                     |
| Y:                          | 382484.1970 feet                     |
| True to Grid: (convergence) | -0.231549 degrees                    |
| Magnetic to Grid:           | 7.481071 degrees                     |

To Convert a Magnetic Dir. to a GRID dir. Add 7.481071 Degs.

Field copy

# PathFinder Energy Services, Inc.

## Magnetic & Grid Calculations

YATES PETROLEUM CORP  
MELSON ZS FEDERAL #2H  
EDDY COUNTY  
Rig: PATRIOT 5

Sat Jul 16 17:41:02 2011

---

### Coordinates

Latitude: 32.050778 N (32 deg. 3 min. 2.8010 sec.)  
Longitude: 103.897006 W (-103 deg. 53 min. 49.2231 sec.)  
Elevation: 6184.50 feet.  
Calculation Date: Jul/15/2011

---

### Magnetic Calculations

Model: IGRF2010  
Dip Angle: 59.9669 degrees  
Total Magnetic Field: 0.48446 gauss  
Magnetic Declination: 7.709742 degrees  
Horizontal Intensity: 0.242474 gauss

To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.709742 Degr.

---

### Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east  
Ellipsoid: GRS80  
X: 676519.6140 feet  
Y: 382484.1970 feet  
True to Grid: (convergence) -0.231549 degrees  
Magnetic to Grid: 7.478192 degrees

To Convert a Magnetic Dir. to a GRID dir. Add 7.478192 Degr.