

PO Box 1370  
Artesia, NM 88211-1370  
(575) 748-1288

30-015-37321

October 25, 2013

Mack Energy Corporation  
PO Box 960  
Artesia, NM 88211-0960

RE: Tamano Federal #1  
1320' FSL & 200' FWL  
Sec. 35, T17S; R31E  
Eddy County, New Mexico.

Dear Sir,

The attached is the Deviation Survey for the above captioned well.

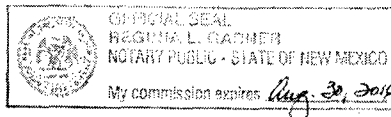
Very truly yours,

Chris Graham  
Drilling Superintendent

State of New Mexico }  
County of Eddy }

The foregoing was acknowledged before me this 25<sup>th</sup> day of October, 2013.

\_\_\_\_\_  
Notary Public



Tamano Federal #1

| Date       | Depth | Deviation | Direction | TVD     |
|------------|-------|-----------|-----------|---------|
| 10/1/2013  | 172   | 0.20      |           |         |
| 10/1/2013  | 348   | 0.60      |           |         |
| 10/1/2013  | 522   | 0.30      |           |         |
| 10/1/2013  | 704   | 1.00      | 244.00    |         |
| 10/1/2013  | 859   | 1.20      | 249.60    |         |
| 10/1/2013  | 902   | 2.30      | 178.00    |         |
| 10/3/2013  | 1033  | 0.10      |           |         |
| 10/3/2013  | 1210  | 0.90      |           |         |
| 10/3/2013  | 1389  | 3.90      |           |         |
| 10/3/2013  | 1452  | 4.30      |           |         |
| 10/3/2013  | 1515  | 6.30      |           |         |
| 10/3/2013  | 1585  | 6.90      |           |         |
| 10/3/2013  | 1647  | 8.50      |           |         |
| 10/4/2013  | 1711  | 10.00     |           |         |
| 10/4/2013  | 1733  | 10.50     |           |         |
| 10/4/2013  | 1837  | 11.60     |           |         |
| 10/4/2013  | 1892  | 11.70     |           |         |
| 10/4/2013  | 1955  | 13.40     |           |         |
| 10/4/2013  | 2024  | 13.60     |           |         |
| 10/6/2013  | 2172  | 16.40     | 213.69    | 2219.00 |
| 10/6/2013  | 2296  | 15.40     | 213.10    | 2343.00 |
| 10/7/2013  | 2578  | 10.50     | 215.91    | 2550.00 |
| 10/7/2013  | 2672  | 9.15      | 178.10    | 2643.00 |
| 10/7/2013  | 2766  | 7.74      | 216.90    | 2736.00 |
| 10/7/2013  | 2860  | 6.68      | 223.60    |         |
| 10/7/2013  | 2955  | 5.98      | 220.40    | 2924.00 |
| 10/7/2013  | 3049  | 5.28      | 223.11    | 3017.00 |
| 10/7/2013  | 3235  | 2.64      | 242.36    | 3203.00 |
| 10/7/2013  | 3330  | 1.93      | 270.09    | 3377.00 |
| 10/7/2013  | 3424  | 1.67      | 270.73    | 3471.00 |
| 10/7/2013  | 3519  | 1.76      | 248.36    | 3487.00 |
| 10/7/2013  | 3707  | 1.93      | 270.22    | 3754.00 |
| 10/8/2013  | 3715  | 2.40      | 271.50    |         |
| 10/8/2013  | 3745  | 2.20      | 272.91    | 3712.95 |
| 10/9/2013  | 2901  | 10.99     | 253.25    | 3865.00 |
| 10/9/2013  | 3838  | 7.03      | 253.12    |         |
| 10/9/2013  | 3932  | 14.07     | 254.11    | 3898.00 |
| 10/9/2013  | 3962  | 17.94     | 254.62    | 3926.00 |
| 10/9/2013  | 3973  | 21.98     | 254.70    | 3956.01 |
| 10/10/2013 | 4024  | 25.68     | 254.83    |         |
| 10/10/2013 | 4055  | 28.58     | 255.41    |         |
| 10/10/2013 | 4086  | 31.39     | 256.30    |         |
| 10/10/2013 | 4117  | 33.68     | 255.99    |         |
| 10/10/2013 | 4148  | 36.14     | 255.47    |         |

| Date       | Depth | Deviation | Direction | TVD     |
|------------|-------|-----------|-----------|---------|
| 10/10/2013 | 4209  | 42.40     | 255.90    |         |
| 10/10/2013 | 4240  | 45.99     | 256.80    |         |
| 10/10/2013 | 4271  | 49.15     | 257.30    |         |
| 10/10/2013 | 4302  | 52.32     | 258.50    |         |
| 10/10/2013 | 4333  | 54.78     | 250.48    |         |
| 10/10/2013 | 4364  | 57.16     | 262.25    |         |
| 10/10/2013 | 4395  | 59.53     | 263.95    |         |
| 10/11/2013 | 1407  | 83.89     | 273.19    | 4778.00 |
| 10/11/2013 | 4426  | 61.47     | 265.89    |         |
| 10/11/2013 | 4457  | 63.31     | 267.75    |         |
| 10/11/2013 | 4488  | 65.42     | 269.03    |         |
| 10/11/2013 | 4519  | 67.71     | 269.91    |         |
| 10/11/2013 | 4550  | 70.08     | 271.04    |         |
| 10/11/2013 | 4581  | 73.25     | 272.12    |         |
| 10/11/2013 | 4612  | 76.15     | 272.60    |         |
| 10/11/2013 | 4642  | 78.88     | 272.88    |         |
| 10/11/2013 | 4672  | 80.90     | 273.14    |         |
| 10/11/2013 | 4735  | 86.70     | 273.03    | 4809.00 |
| 10/11/2013 | 4766  | 89.25     | 272.71    | 4840.00 |
| 10/11/2013 | 4797  | 91.98     | 272.43    | 4871.00 |
| 10/11/2013 | 4828  | 93.39     | 272.71    | 4902.00 |
| 10/14/2013 | 4899  | 94.31     | 272.76    | 4349.00 |
| 10/14/2013 | 4961  | 94.65     | 272.30    | 4345.00 |
| 10/14/2013 | 5054  | 95.04     | 271.93    |         |
| 10/14/2013 | 5146  | 93.98     | 271.42    |         |
| 10/14/2013 | 5239  | 94.70     | 270.74    |         |
| 10/15/2013 | 5332  | 93.70     | 270.70    | 4316.00 |
| 10/15/2013 | 5425  | 94.03     | 270.60    | 4309.00 |
| 10/15/2013 | 5517  | 94.14     | 270.56    | 4303.00 |
| 10/15/2013 | 5610  | 94.48     | 270.58    |         |
| 10/15/2013 | 5703  | 94.71     | 270.24    | 4288.00 |
| 10/15/2013 | 5796  | 95.15     | 270.48    | 4280.00 |
| 10/15/2013 | 5889  | 95.33     | 270.31    |         |
| 10/15/2013 | 5982  | 95.33     | 270.42    |         |
| 10/15/2013 | 6074  | 95.55     | 270.20    |         |
| 10/16/2013 | 6167  | 95.49     | 270.37    | 4246.00 |
| 10/16/2013 | 6260  | 95.61     | 270.57    | 4237.00 |
| 10/16/2013 | 6363  | 96.06     | 269.72    | 4227.00 |
| 10/16/2013 | 6446  | 96.17     | 269.91    | 4217.00 |
| 10/16/2013 | 6538  | 96.29     | 270.09    | 4207.00 |
| 10/16/2013 | 6631  | 96.17     | 269.88    | 4197.00 |
| 10/16/2013 | 6773  | 96.40     | 270.43    | 6783.00 |
| 10/17/2013 | 6780  | 96.62     | 270.59    | 4181.00 |
| 10/17/2013 | 6842  | 95.38     | 269.67    | 4174.00 |
| 10/18/2013 | 6935  | 94.43     | 268.93    |         |
| 10/18/2013 | 7027  | 94.43     | 268.68    |         |

| Date       | Depth | Deviation | Direction | TVD     |
|------------|-------|-----------|-----------|---------|
| 10/18/2013 | 7119  | 94.32     | 268.10    | 4252.00 |
| 10/18/2013 | 7213  | 94.14     | 268.55    | 4445.00 |
| 10/18/2013 | 7398  | 95.04     | 268.60    | 4131.00 |
| 10/18/2013 | 7491  | 95.88     | 268.67    | 4122.26 |
| 10/19/2013 | 7582  | 97.30     | 269.16    |         |
| 10/19/2013 | 7674  | 97.19     | 268.72    | 4100.00 |
| 10/19/2013 | 7767  | 97.13     | 268.77    | 4088.00 |
| 10/19/2013 | 7860  | 96.84     | 268.73    | 4077.00 |
| 10/19/2013 | 7860  | 95.94     | 268.66    | 4077.00 |
| 10/19/2013 | 8045  | 97.01     | 269.02    | 4056.68 |
| 10/20/2013 | 8138  | 96.79     | 269.22    |         |
| 10/20/2013 | 8231  | 96.28     | 269.98    |         |
| 10/20/2013 | 8323  | 96.67     | 270.70    | 4024.00 |
| 10/20/2013 | 8416  | 96.28     | 270.47    | 4013.00 |
| 10/20/2013 | 8508  | 97.13     | 270.68    | 4003.00 |
| 10/20/2013 | 8601  | 97.25     | 270.53    | 3991.00 |
| 10/20/2013 | 8694  | 97.24     | 270.66    | 3979.85 |

## PathFinder -- a Schlumberger company

### Survey Report

MACK ENERGY CORPORATION  
TAMANO FEDERAL #1  
EDDY COUNTY, NM  
API#: 30-015-37321 Rig: SILVER OAK DRILLING #6  
PathFinder Office Supervisor: Joe Hogan  
PathFinder Field Engineers: Ricky Deleon  
Daniel Harrison

Survey Horiz. Reference: WELLHEAD  
Ref Coordinates: LAT: 32.47.13.8481 N LON: 103.49.49.7524 W  
GRID Reference: NAD27 new mexico east Transverse Mercator  
Ref GRID Coord: X: 654534.2000 Y: 650454.3000  
North Aligned To: GRID NORTH  
Total Magnetic Correction: 7.19° EAST TO GRID  
Vertical Section Plane: 266.41  
Survey Vert. Reference: 17.50' Rotary Bushing To Ground  
Altitude: 3810.00' Ground To MSL

Survey Calculations by RX5 V6.04D 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) | Closure<br>Dist_Dir<br>(ft) (deg) | DLS<br>(dg/100ft) | TEMP<br>(F) |
|-----------------------------------------------|---------------|------------------------|-------------|--------------------------|-----------------------------|--------------------------------------|-----------------------------------|-------------------|-------------|
| THE FOLLOWING ARE SCIENTIFIC GYRO SURVEYS:    |               |                        |             |                          |                             |                                      |                                   |                   |             |
| 100.00                                        | 0.44          | 279.74                 | 100.00      | 0.00                     | 0.40                        | 0.04 N 0.40 W                        | 0.40@ 275.90                      | 0.00              | 0.00        |
| 200.00                                        | 0.41          | 256.15                 | 199.99      | 100.00                   | 1.12                        | 0.02 N 1.13 W                        | 1.13@ 271.06                      | 0.18              | 0.00        |
| 300.00                                        | 0.37          | 236.09                 | 299.99      | 100.00                   | 1.75                        | 0.24 S 1.74 W                        | 1.76@ 262.00                      | 0.14              | 0.00        |
| 400.00                                        | 0.56          | 235.91                 | 399.99      | 100.00                   | 2.45                        | 0.70 S 2.42 W                        | 2.51@ 253.86                      | 0.19              | 0.00        |
| 500.00                                        | 0.68          | 243.82                 | 499.98      | 100.00                   | 3.42                        | 1.23 S 3.35 W                        | 3.57@ 249.78                      | 0.15              | 0.00        |
| 600.00                                        | 0.73          | 224.61                 | 599.98      | 100.00                   | 4.45                        | 1.95 S 4.33 W                        | 4.75@ 245.77                      | 0.24              | 0.00        |
| 700.00                                        | 0.77          | 238.26                 | 699.97      | 100.00                   | 5.51                        | 2.76 S 5.35 W                        | 6.02@ 242.74                      | 0.18              | 0.00        |
| 800.00                                        | 0.88          | 229.78                 | 799.96      | 100.00                   | 6.72                        | 3.61 S 6.51 W                        | 7.44@ 241.01                      | 0.16              | 0.00        |
| 900.00                                        | 0.89          | 232.39                 | 899.95      | 100.00                   | 7.98                        | 4.58 S 7.71 W                        | 8.97@ 239.31                      | 0.04              | 0.00        |
| 1000.00                                       | 0.80          | 233.19                 | 999.93      | 100.00                   | 9.21                        | 5.47 S 8.89 W                        | 10.43@ 238.39                     | 0.09              | 0.00        |
| 1100.00                                       | 1.16          | 224.41                 | 1099.92     | 100.00                   | 10.55                       | 6.61 S 10.15 W                       | 12.11@ 236.93                     | 0.39              | 0.00        |
| 1200.00                                       | 1.87          | 224.10                 | 1199.88     | 100.00                   | 12.51                       | 8.50 S 12.00 W                       | 14.70@ 234.67                     | 0.71              | 0.00        |
| 1300.00                                       | 3.19          | 221.13                 | 1299.78     | 100.00                   | 15.67                       | 11.77 S 14.96 W                      | 19.04@ 231.80                     | 1.33              | 0.00        |
| 1400.00                                       | 4.64          | 217.84                 | 1399.55     | 100.00                   | 20.30                       | 17.06 S 19.27 W                      | 25.74@ 228.48                     | 1.47              | 0.00        |
| 1500.00                                       | 6.37          | 218.17                 | 1499.08     | 100.00                   | 26.68                       | 24.62 S 25.18 W                      | 35.22@ 225.65                     | 1.73              | 0.00        |
| 1600.00                                       | 8.19          | 215.84                 | 1598.27     | 100.00                   | 34.89                       | 34.75 S 32.78 W                      | 47.78@ 223.33                     | 1.84              | 0.00        |
| 1700.00                                       | 9.67          | 216.42                 | 1697.06     | 100.00                   | 44.82                       | 47.29 S 41.94 W                      | 63.21@ 221.57                     | 1.48              | 0.00        |
| 1800.00                                       | 11.31         | 215.37                 | 1795.38     | 100.00                   | 56.39                       | 62.04 S 52.60 W                      | 81.34@ 220.29                     | 1.65              | 0.00        |
| 1900.00                                       | 12.34         | 214.85                 | 1893.26     | 100.00                   | 69.19                       | 78.61 S 64.39 W                      | 101.77@ 219.25                    | 1.04              | 0.00        |
| 2000.00                                       | 13.88         | 213.28                 | 1990.65     | 100.00                   | 83.04                       | 97.61 S 77.07 W                      | 124.37@ 218.30                    | 1.58              | 0.00        |
| TIED INTO SCIENTIFIC GYRO SURVEY AT 2064' MD. |               |                        |             |                          |                             |                                      |                                   |                   |             |
| 2064.00                                       | 15.55         | 213.24                 | 2052.55     | 64.00                    | 92.78                       | 111.20 S 85.99 W                     | 140.57@ 217.71                    | 2.61              | 0.00        |
| THE FOLLOWING ARE PATHFINDER MWD SURVEYS:     |               |                        |             |                          |                             |                                      |                                   |                   |             |
| 2203.00                                       | 16.62         | 213.31                 | 2186.11     | 139.00                   | 115.89                      | 143.40 S 107.12 W                    | 178.99@ 216.76                    | 0.77              | 90.18       |
| 2296.00                                       | 14.68         | 213.43                 | 2275.65     | 93.00                    | 130.97                      | 164.35 S 120.92 W                    | 204.04@ 216.34                    | 2.09              | 90.18       |
| 2390.00                                       | 13.01         | 213.90                 | 2366.92     | 94.00                    | 144.58                      | 183.07 S 133.38 W                    | 226.51@ 216.08                    | 1.78              | 93.60       |

# PathFinder – a Schlumberger company Survey Report

MACK ENERGY CORPORATION  
TAMANO FEDERAL #1  
EDDY COUNTY, NM  
API#: 30-015-37321 Rig: SILVER OAK DRILLING #6

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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) |          | Closure<br>Dist Dir<br>(ft) (deg) |        | OLS<br>(dg/100ft) | TEMP<br>(F) |
|---------------------------|---------------|------------------------|-------------|--------------------------|-----------------------------|--------------------------------------|----------|-----------------------------------|--------|-------------------|-------------|
| 2484.00                   | 12.05         | 213.85                 | 2458.68     | 94.00                    | 156.99                      | 200.00 S                             | 144.75 W | 246.89@                           | 215.89 | 1.02              | 93.80       |
| 2578.00                   | 10.55         | 215.91                 | 2550.86     | 94.00                    | 168.43                      | 215.12 S                             | 155.26 W | 265.30@                           | 215.82 | 1.65              | 93.80       |
| 2672.00                   | 9.15          | 216.05                 | 2643.47     | 94.00                    | 178.67                      | 228.14 S                             | 164.71 W | 281.38@                           | 215.83 | 1.49              | 97.41       |
| 2766.00                   | 7.74          | 216.90                 | 2736.45     | 94.00                    | 187.55                      | 239.24 S                             | 172.91 W | 295.18@                           | 215.86 | 1.51              | 97.41       |
| 2860.00                   | 6.08          | 223.65                 | 2829.70     | 94.00                    | 195.67                      | 248.26 S                             | 180.48 W | 306.93@                           | 216.02 | 1.44              | 97.41       |
| 2955.00                   | 5.98          | 220.40                 | 2924.12     | 95.00                    | 203.17                      | 256.02 S                             | 187.50 W | 317.34@                           | 216.22 | 0.83              | 97.41       |
| 3049.00                   | 5.28          | 223.11                 | 3017.67     | 94.00                    | 209.72                      | 262.91 S                             | 193.63 W | 326.52@                           | 216.37 | 0.80              | 97.41       |
| 3141.00                   | 3.87          | 232.62                 | 3109.38     | 92.00                    | 215.38                      | 267.89 S                             | 198.99 W | 333.71@                           | 216.61 | 1.74              | 97.41       |
| 3235.00                   | 2.64          | 242.36                 | 3203.22     | 94.00                    | 219.99                      | 270.82 S                             | 203.43 W | 338.71@                           | 216.91 | 1.43              | 101.02      |
| 3330.00                   | 1.93          | 270.09                 | 3298.15     | 95.00                    | 223.50                      | 271.83 S                             | 206.97 W | 341.66@                           | 217.29 | 1.36              | 101.02      |
| 3424.00                   | 1.67          | 270.73                 | 3392.10     | 94.00                    | 226.53                      | 271.81 S                             | 208.92 W | 343.44@                           | 217.68 | 0.28              | 101.02      |
| 3519.00                   | 1.76          | 248.36                 | 3487.08     | 95.00                    | 229.30                      | 272.33 S                             | 212.66 W | 345.53@                           | 217.99 | 0.71              | 101.02      |
| 3614.00                   | 1.67          | 261.15                 | 3582.02     | 95.00                    | 232.06                      | 273.08 S                             | 215.39 W | 347.80@                           | 218.26 | 0.41              | 104.64      |
| 3707.00                   | 1.93          | 270.22                 | 3674.97     | 93.00                    | 234.98                      | 273.28 S                             | 218.29 W | 349.76@                           | 218.62 | 0.41              | 101.02      |
| 3745.00                   | 2.20          | 272.91                 | 3712.95     | 38.00                    | 236.34                      | 273.24 S                             | 219.66 W | 350.59@                           | 218.80 | 0.75              | 97.41       |
| 3776.00                   | 3.69          | 266.00                 | 3743.91     | 31.00                    | 237.93                      | 273.28 S                             | 221.25 W | 351.62@                           | 218.99 | 4.93              | 97.41       |
| 3867.00                   | 5.54          | 256.66                 | 3774.81     | 31.00                    | 240.40                      | 273.70 S                             | 223.70 W | 353.49@                           | 219.26 | 6.42              | 97.41       |
| 3838.00                   | 7.03          | 253.12                 | 3805.62     | 31.00                    | 243.72                      | 274.59 S                             | 226.97 W | 356.26@                           | 219.58 | 4.96              | 97.41       |
| 3869.00                   | 8.79          | 252.65                 | 3836.32     | 31.00                    | 247.87                      | 275.85 S                             | 231.05 W | 358.83@                           | 219.95 | 5.68              | 101.02      |
| 3901.00                   | 10.99         | 253.25                 | 3867.85     | 32.00                    | 253.21                      | 277.46 S                             | 236.30 W | 364.45@                           | 220.42 | 6.88              | 97.41       |
| 3932.00                   | 14.07         | 254.11                 | 3898.10     | 31.00                    | 259.78                      | 279.34 S                             | 242.76 W | 370.09@                           | 220.99 | 9.95              | 101.02      |
| 3962.00                   | 17.94         | 254.62                 | 3926.94     | 30.00                    | 267.86                      | 281.57 S                             | 250.73 W | 377.02@                           | 221.68 | 12.91             | 101.02      |
| 3993.00                   | 21.98         | 254.70                 | 3956.07     | 31.00                    | 278.22                      | 284.37 S                             | 260.93 W | 385.94@                           | 222.54 | 13.03             | 104.64      |
| 4024.00                   | 25.68         | 254.83                 | 3984.42     | 31.00                    | 290.49                      | 287.66 S                             | 273.01 W | 396.59@                           | 223.50 | 11.94             | 104.64      |
| 4055.00                   | 28.58         | 255.41                 | 4012.01     | 31.00                    | 304.35                      | 291.28 S                             | 286.67 W | 408.69@                           | 224.54 | 9.39              | 104.64      |
| 4086.00                   | 31.39         | 256.30                 | 4038.85     | 31.00                    | 319.58                      | 295.06 S                             | 301.70 W | 422.00@                           | 225.64 | 9.18              | 104.64      |
| 4117.00                   | 33.68         | 255.99                 | 4064.99     | 31.00                    | 335.98                      | 299.06 S                             | 317.88 W | 436.44@                           | 226.75 | 7.41              | 104.64      |
| 4148.00                   | 36.14         | 255.47                 | 4090.41     | 31.00                    | 353.42                      | 303.43 S                             | 335.07 W | 452.05@                           | 227.84 | 7.99              | 104.64      |

# PathFinder – a Schlumberger company Survey Report

MACK ENERGY CORPORATION  
TAMANO FEDERAL #1  
EDDY COUNTY, NM  
APU#: 30-015-37321 Rig: SILVER OAK DRILLING #6

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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) | TEMP<br>(F) |
|---------------------------|---------------|------------------------|-------------|--------------------------|-----------------------------|-------------------------------------------|-----------|-----------------------------------|--------|-------------------|-------------|
| 4178.00                   | 39.39         | 255.58                 | 4114.12     | 30.00                    | 371.45                      | 308.02 S                                  | 352.86 W  | 468.39@                           | 228.88 | 10.84             | 104.64      |
| 4209.00                   | 42.47         | 255.90                 | 4137.54     | 31.00                    | 391.41                      | 313.02 S                                  | 372.54 W  | 486.59@                           | 229.96 | 9.96              | 104.64      |
| 4240.00                   | 45.99         | 256.08                 | 4159.75     | 31.00                    | 412.67                      | 318.26 S                                  | 393.52 W  | 506.11@                           | 231.04 | 11.36             | 108.25      |
| 4271.00                   | 49.15         | 257.33                 | 4180.66     | 31.00                    | 435.23                      | 323.51 S                                  | 415.78 W  | 526.82@                           | 232.11 | 10.62             | 108.30      |
| 4302.00                   | 52.32         | 258.57                 | 4200.28     | 31.00                    | 458.96                      | 328.52 S                                  | 439.25 W  | 548.51@                           | 233.21 | 10.68             | 108.25      |
| 4333.00                   | 54.78         | 260.48                 | 4218.70     | 31.00                    | 483.72                      | 333.04 S                                  | 463.77 W  | 570.96@                           | 234.32 | 9.36              | 108.25      |
| 4364.00                   | 57.16         | 262.25                 | 4236.04     | 31.00                    | 509.30                      | 336.89 S                                  | 489.17 W  | 593.96@                           | 235.44 | 9.02              | 108.25      |
| 4395.00                   | 59.53         | 263.95                 | 4252.31     | 31.00                    | 535.64                      | 340.06 S                                  | 515.36 W  | 617.44@                           | 236.58 | 8.96              | 108.25      |
| 4426.00                   | 61.47         | 265.89                 | 4267.58     | 31.00                    | 562.61                      | 342.44 S                                  | 542.24 W  | 641.32@                           | 237.73 | 8.30              | 108.25      |
| 4457.00                   | 63.31         | 267.75                 | 4281.95     | 31.00                    | 590.08                      | 343.96 S                                  | 569.66 W  | 665.45@                           | 238.88 | 7.97              | 108.30      |
| 4488.00                   | 65.42         | 269.03                 | 4295.36     | 31.00                    | 618.01                      | 344.74 S                                  | 597.60 W  | 689.91@                           | 240.02 | 7.76              | 108.25      |
| 4519.00                   | 67.71         | 269.91                 | 4307.69     | 31.00                    | 646.41                      | 345.01 S                                  | 626.03 W  | 714.81@                           | 241.14 | 7.83              | 108.25      |
| 4550.00                   | 70.08         | 271.04                 | 4318.85     | 31.00                    | 675.25                      | 344.76 S                                  | 654.95 W  | 740.15@                           | 242.24 | 8.37              | 108.25      |
| 4581.00                   | 73.25         | 272.12                 | 4328.60     | 31.00                    | 704.56                      | 343.95 S                                  | 684.36 W  | 765.93@                           | 243.32 | 10.75             | 108.25      |
| 4612.00                   | 76.15         | 272.62                 | 4336.78     | 31.00                    | 734.29                      | 342.71 S                                  | 714.23 W  | 792.20@                           | 244.37 | 9.48              | 108.25      |
| 4642.00                   | 78.88         | 272.91                 | 4343.26     | 30.00                    | 763.40                      | 341.30 S                                  | 743.49 W  | 818.08@                           | 245.34 | 9.15              | 108.25      |
| 4672.30                   | 80.90         | 273.14                 | 4348.58     | 30.30                    | 793.03                      | 339.73 S                                  | 773.27 W  | 844.61@                           | 246.28 | 6.71              | 108.25      |
| 4704.00                   | 83.89         | 273.19                 | 4352.78     | 31.70                    | 824.23                      | 337.99 S                                  | 804.64 W  | 872.75@                           | 247.22 | 9.43              | 108.25      |
| 4735.00                   | 86.70         | 273.03                 | 4355.32     | 31.00                    | 854.91                      | 336.31 S                                  | 835.49 W  | 900.64@                           | 248.07 | 9.08              | 108.25      |
| 4766.00                   | 89.25         | 272.71                 | 4356.41     | 31.00                    | 885.69                      | 334.76 S                                  | 866.43 W  | 928.85@                           | 248.87 | 8.29              | 108.25      |
| 4797.00                   | 91.98         | 272.43                 | 4356.08     | 31.00                    | 916.51                      | 333.37 S                                  | 897.39 W  | 957.32@                           | 249.62 | 8.85              | 108.25      |
| 4828.00                   | 93.39         | 272.71                 | 4354.63     | 31.00                    | 947.29                      | 331.99 S                                  | 928.33 W  | 985.90@                           | 250.32 | 4.64              | 108.25      |
| 4899.00                   | 94.31         | 272.76                 | 4349.86     | 71.00                    | 1017.70                     | 328.60 S                                  | 999.09 W  | 1051.74@                          | 251.79 | 1.30              | 101.02      |
| 4961.00                   | 94.65         | 272.30                 | 4345.02     | 62.00                    | 1079.16                     | 325.88 S                                  | 1060.84 W | 1109.76@                          | 252.92 | 0.92              | 101.02      |
| 5054.00                   | 95.04         | 271.93                 | 4337.16     | 93.00                    | 1171.37                     | 322.46 S                                  | 1153.44 W | 1197.67@                          | 254.38 | 0.58              | 104.64      |
| 5146.00                   | 93.98         | 271.42                 | 4329.93     | 92.00                    | 1262.70                     | 319.78 S                                  | 1245.12 W | 1285.52@                          | 255.60 | 1.28              | 104.64      |
| 5239.00                   | 94.71         | 270.74                 | 4322.88     | 93.00                    | 1355.12                     | 318.03 S                                  | 1337.83 W | 1375.11@                          | 256.63 | 1.07              | 108.25      |
| 5332.00                   | 93.70         | 270.70                 | 4316.06     | 93.00                    | 1447.61                     | 316.86 S                                  | 1430.57 W | 1465.24@                          | 257.51 | 1.09              | 104.64      |

MACC ENERGY CORPORATION  
TAMANO FEDERAL #1  
EDDY COUNTY, NM  
API#: 30-015-37321      Fig: SIL

Rig: SILVER OAK DRILLING #6

| Measured Depth (ft) | Incl (deg) | Drift (deg) | TYD (ft) | Course Length (ft) | Vertical Section (ft) | TOTAL Rectangular Chassis (ft) |           | Closure Drift Dir (ft) (deg) |        | DLS (deg/100ft) | TEMP (F) |
|---------------------|------------|-------------|----------|--------------------|-----------------------|--------------------------------|-----------|------------------------------|--------|-----------------|----------|
|                     |            |             |          |                    |                       | (ft)                           | (ft)      | (ft)                         | (deg)  |                 |          |
| 5453.00             | 94.03      | 270.60      | 4109.80  | 93.00              | 1560.14               | 315.81                         | 1515.35 W | 1555.52 E                    | 256.29 | 0.37            | 104.64   |
| 5517.00             | 94.14      | 270.56      | 4103.24  | 92.00              | 1541.86               | 314.88                         | 1456.12 W | 1556.25 E                    | 256.98 | 0.13            | 104.64   |
| 5612.00             | 94.00      | 270.58      | 4286.25  | 93.00              | 1724.16               | 313.98                         | 1700.25 W | 1726.47 E                    | 259.58 | 0.37            | 104.64   |
| 5703.00             | 94.71      | 270.24      | 4288.80  | 93.00              | 1816.63               | 313.75                         | 1800.35 W | 1827.60 E                    | 260.53 | 0.44            | 101.02   |
| 5796.00             | 95.15      | 270.48      | 4380.81  | 93.00              | 1899.07               | 312.71                         | 1883.20 W | 1918.85 E                    | 260.62 | 0.54            | 104.64   |
| 5889.00             | 95.33      | 270.31      | 4423.77  | 93.00              | 2001.45               | 312.07                         | 1985.81 W | 2010.16 E                    | 261.07 | 0.77            | 104.64   |
| 5991.00             | 95.33      | 270.42      | 4282.32  | 92.00              | 2082.84               | 311.49                         | 2072.61 W | 2100.53 E                    | 261.47 | 0.12            | 104.64   |
| 6074.00             | 95.55      | 270.20      | 4254.55  | 93.00              | 2185.20               | 310.99                         | 2169.99 W | 2192.16 E                    | 261.84 | 0.33            | 104.64   |
| 6167.00             | 95.49      | 270.37      | 4326.01  | 93.00              | 2277.56               | 310.55                         | 2262.56 W | 2283.77 E                    | 262.19 | 0.19            | 104.64   |
| 6260.00             | 95.61      | 270.57      | 4327.01  | 93.00              | 2369.89               | 309.77                         | 2355.12 W | 2375.00 E                    | 262.51 | 0.25            | 104.64   |
| 6333.00             | 96.06      | 269.72      | 4227.56  | 93.00              | 2462.31               | 309.54                         | 2447.63 W | 2467.13 E                    | 263.72 | 0.34            | 104.64   |
| 6446.00             | 96.17      | 269.91      | 4217.65  | 93.00              | 2554.32               | 309.83                         | 2540.11 W | 2556.93 E                    | 263.05 | 0.13            | 104.64   |
| 6538.00             | 96.29      | 270.08      | 4207.67  | 92.00              | 2645.80               | 309.83                         | 2633.56 W | 2649.74 E                    | 263.29 | 0.23            | 104.64   |
| 6631.00             | 96.17      | 269.88      | 4197.56  | 92.00              | 2729.87               | 309.86                         | 2716.01 W | 2741.58 E                    | 263.51 | 0.26            | 104.64   |
| 6723.00             | 96.40      | 270.43      | 4187.50  | 93.00              | 2828.32               | 309.61                         | 2815.46 W | 2832.33 E                    | 263.72 | 0.64            | 104.64   |
| 6780.00             | 96.62      | 270.59      | 4181.04  | 57.00              | 2885.81               | 309.11                         | 2872.09 W | 2888.67 E                    | 263.86 | 0.48            | 101.02   |
| 6842.00             | 95.38      | 269.67      | 4174.56  | 62.00              | 2947.34               | 308.93                         | 2933.75 W | 2949.97 E                    | 263.99 | 1.29            | 101.02   |
| 6935.00             | 94.43      | 268.93      | 4166.61  | 93.00              | 3039.88               | 310.10                         | 3026.40 W | 3042.24 E                    | 264.35 | 1.59            | 101.02   |
| 7027.00             | 94.43      | 268.68      | 4159.50  | 92.00              | 3131.52               | 312.01                         | 3118.10 W | 3133.51 E                    | 264.20 | 0.17            | 104.64   |
| 7119.00             | 94.32      | 268.61      | 4152.48  | 92.00              | 3223.18               | 314.18                         | 3209.81 W | 3225.15 E                    | 264.41 | 0.14            | 104.64   |
| 7213.00             | 94.14      | 268.55      | 4145.55  | 94.00              | 3316.66               | 316.51                         | 3300.52 W | 3318.55 E                    | 264.53 | 0.20            | 104.64   |
| 7306.00             | 94.37      | 268.58      | 4138.05  | 93.00              | 3409.54               | 318.83                         | 3389.24 W | 3411.17 E                    | 264.64 | 0.25            | 104.64   |
| 7388.00             | 95.04      | 268.60      | 4131.50  | 92.00              | 3501.16               | 321.08                         | 3481.90 W | 3502.56 E                    | 264.74 | 0.73            | 108.25   |
| 7491.00             | 95.88      | 268.67      | 4122.26  | 93.00              | 3593.67               | 323.29                         | 3560.45 W | 3585.02 E                    | 264.84 | 0.91            | 104.04   |
| 7582.00             | 97.30      | 269.16      | 4111.81  | 91.00              | 3683.98               | 325.00                         | 3670.83 W | 3686.19 E                    | 264.94 | 1.65            | 101.02   |
| 7674.00             | 97.19      | 268.72      | 4100.21  | 92.00              | 3775.5                | 326.69                         | 3762.08 W | 3776.94 E                    | 265.04 | 0.49            | 104.64   |
| 7767.00             | 96.13      | 268.77      | 4088.62  | 93.00              | 3867.35               | 328.71                         | 3854.33 W | 3868.33 E                    | 265.13 | 0.08            | 104.64   |
| 7860.00             | 96.84      | 268.73      | 4077.31  | 93.00              | 3959.59               | 330.73                         | 3946.64 W | 3960.45 E                    | 265.21 | 0.31            | 108.25   |



# PathFinder – a Schlumberger company Survey Report

MACK ENERGY CORPORATION  
TAMAND FEDERAL #1  
EDDY COUNTY, NM  
API#: 30-015-37321 Rig: SILVER OAK DRILLING #6

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) | TEMP<br>(F) |
|----------------------------------------------------|---------------|------------------------|-------------|--------------------------|-----------------------------|--------------------------------------|-----------|-----------------------------------|--------|-------------------|-------------|
| 7952.00                                            | 95.94         | 268.66                 | 4067.07     | 92.00                    | 4050.94                     | 332.81 S                             | 4038.03 W | 4051.72@                          | 265.29 | 0.98              | 104.64      |
| 8045.00                                            | 97.01         | 269.02                 | 4056.58     | 93.00                    | 4143.26                     | 334.68 S                             | 4130.41 W | 4143.95@                          | 265.37 | 1.21              | 108.25      |
| 8138.00                                            | 96.79         | 269.22                 | 4045.41     | 93.00                    | 4235.49                     | 336.10 S                             | 4222.73 W | 4236.08@                          | 265.45 | 0.32              | 108.25      |
| 8230.00                                            | 96.28         | 269.98                 | 4034.94     | 92.00                    | 4326.75                     | 336.73 S                             | 4314.13 W | 4327.25@                          | 265.54 | 0.99              | 111.87      |
| 8323.00                                            | 96.67         | 270.70                 | 4024.45     | 93.00                    | 4418.93                     | 336.19 S                             | 4406.53 W | 4419.34@                          | 265.64 | 0.88              | 111.87      |
| 8416.00                                            | 96.28         | 270.47                 | 4013.96     | 93.00                    | 4511.10                     | 335.24 S                             | 4498.93 W | 4511.41@                          | 265.74 | 0.49              | 108.25      |
| 8508.00                                            | 97.13         | 270.68                 | 4003.22     | 92.00                    | 4602.22                     | 334.33 S                             | 4590.30 W | 4602.46@                          | 265.83 | 0.95              | 111.87      |
| 8601.00                                            | 97.25         | 270.53                 | 3991.58     | 93.00                    | 4694.25                     | 333.35 S                             | 4682.56 W | 4694.41@                          | 265.93 | 0.21              | 111.87      |
| 8694.00                                            | 97.24         | 270.66                 | 3979.85     | 93.00                    | 4786.26                     | 332.39 S                             | 4774.81 W | 4786.37@                          | 266.02 | 0.14              | 111.87      |
| STRAIGHT LINE PROJECTION TO BIT DEPTH AT 8755' MD. |               |                        |             |                          |                             |                                      |           |                                   |        |                   |             |
| 8755.00                                            | 97.24         | 270.66                 | 3972.17     | 61.00                    | 4846.60                     | 331.70 S                             | 4835.32 W | 4846.69@                          | 266.08 | 0.00              | 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 – a Schlumberger company and may reflect minor changes due to rounding differences between survey programs. Only survey stations taken by qualified PathFinder personnel are subject to certification.