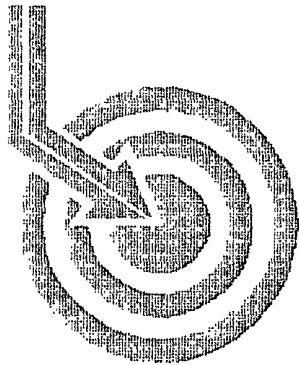
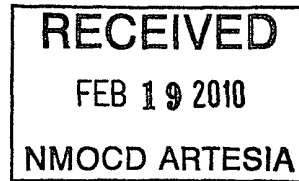


30015 37285



# Scientific Drilling



## MARBOB ENERGY

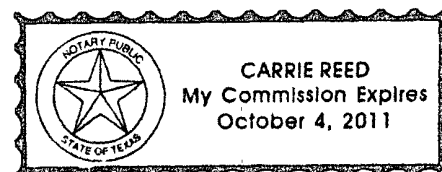
Field: North Seven Rivers  
Site: Eddy County, NM  
Well: Noose Federal Com #7H  
Wellpath: VH - Job #32K1009414  
Survey: 10/06/09

This survey is correct to the best of my knowledge  
and is supported by actual field data.

.....*R. Wharton*..... Company Representative

Notorized this date 3rd of November, 2009.

*Carrie Reed*  
Notary Signature  
County of Midland  
State of Texas





Scientific  
Drilling

# Scientific Drilling International Survey Report

|                                       |                                   |                                          |                   |
|---------------------------------------|-----------------------------------|------------------------------------------|-------------------|
| <b>Company:</b> MARBOB ENERGY         | <b>Date:</b> 10/08/2009           | <b>Time:</b> 11:27:56                    | <b>Page:</b> 1    |
| <b>Field:</b> North Seven Rivers      | <b>Co-ordinate(NE) Reference:</b> | <b>Site:</b> Eddy County, NM, Grid North |                   |
| <b>Site:</b> Eddy County, NM          | <b>Vertical (TVD) Reference:</b>  | <b>SITE</b> 0.0                          |                   |
| <b>Well:</b> Noose Federal Com #7H    | <b>Section (VS) Reference:</b>    | <b>Well</b> (0.00N,0.00E,181.40Azi)      |                   |
| <b>Wellpath:</b> VH - Job #32K1009414 | <b>Survey Calculation Method:</b> | <b>Minimum Curvature</b>                 | <b>Db:</b> Sybase |

|                                                |                                        |
|------------------------------------------------|----------------------------------------|
| <b>Survey:</b> 10/06/09                        | <b>Start Date:</b> 10/06/2009          |
| <b>KSRG</b> 0'-2121'                           |                                        |
| <b>Company:</b> Scientific Drilling Internatio | <b>Engineer:</b> Guebara w/Halliburton |
| <b>Tool:</b> Keeper;Keeper Gyro                | <b>Tied-to:</b> From Surface           |

## Survey

| MD<br>ft | Incl<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | N/S<br>ft | E/W<br>ft | DLS<br>deg/100ft | ClsD<br>ft | ClsA<br>deg |
|----------|-------------|-------------|-----------|----------|-----------|-----------|------------------|------------|-------------|
| 0.00     | 0.00        | 0.07        | 0.00      | 0.00     | 0.00      | 0.00      | 0.00             | 0.00       | 0.00        |
| 100.00   | 0.56        | 229.75      | 100.00    | 0.32     | -0.32     | -0.37     | 0.56             | 0.49       | 229.75      |
| 200.00   | 0.37        | 215.14      | 200.00    | 0.92     | -0.90     | -0.93     | 0.22             | 1.29       | 226.14      |
| 300.00   | 0.32        | 92.62       | 299.99    | 1.19     | -1.17     | -0.84     | 0.61             | 1.44       | 215.58      |
| 400.00   | 0.43        | 76.90       | 399.99    | 1.10     | -1.10     | -0.19     | 0.15             | 1.12       | 190.01      |
| 500.00   | 0.52        | 83.40       | 499.99    | 0.95     | -0.96     | 0.62      | 0.10             | 1.15       | 147.14      |
| 600.00   | 0.55        | 92.03       | 599.98    | 0.89     | -0.93     | 1.55      | 0.09             | 1.81       | 120.86      |
| 700.00   | 0.68        | 105.24      | 699.98    | 1.04     | -1.10     | 2.60      | 0.19             | 2.83       | 112.91      |
| 800.00   | 0.71        | 101.24      | 799.97    | 1.28     | -1.38     | 3.78      | 0.06             | 4.03       | 110.00      |
| 900.00   | 0.69        | 96.09       | 899.96    | 1.44     | -1.56     | 4.99      | 0.07             | 5.23       | 107.38      |
| 1000.00  | 0.66        | 96.26       | 999.96    | 1.54     | -1.69     | 6.16      | 0.03             | 6.39       | 105.33      |
| 1100.00  | 0.66        | 93.53       | 1099.95   | 1.61     | -1.79     | 7.31      | 0.03             | 7.53       | 103.74      |
| 1200.00  | 0.62        | 91.91       | 1199.94   | 1.63     | -1.84     | 8.43      | 0.04             | 8.62       | 102.32      |
| 1300.00  | 0.66        | 65.73       | 1299.94   | 1.39     | -1.62     | 9.49      | 0.29             | 9.63       | 99.70       |
| 1400.00  | 0.74        | 62.15       | 1399.93   | 0.82     | -1.08     | 10.59     | 0.09             | 10.64      | 95.84       |
| 1500.00  | 0.85        | 57.24       | 1499.92   | 0.09     | -0.38     | 11.78     | 0.13             | 11.79      | 91.85       |
| 1600.00  | 0.96        | 59.08       | 1599.91   | -0.77    | 0.45      | 13.12     | 0.11             | 13.13      | 88.03       |
| 1700.00  | 1.12        | 61.74       | 1699.89   | -1.70    | 1.34      | 14.70     | 0.17             | 14.77      | 84.77       |
| 1800.00  | 1.21        | 65.80       | 1799.87   | -2.64    | 2.24      | 16.53     | 0.12             | 16.68      | 82.28       |
| 1900.00  | 1.11        | 57.23       | 1899.85   | -3.64    | 3.20      | 18.31     | 0.20             | 18.58      | 80.09       |
| 2000.00  | 0.67        | 62.92       | 1999.84   | -4.47    | 3.99      | 19.64     | 0.45             | 20.04      | 78.52       |
| 2100.00  | 0.37        | 17.49       | 2099.83   | -5.06    | 4.56      | 20.26     | 0.49             | 20.77      | 77.31       |
| 2121.00  | 0.30        | 34.47       | 2120.83   | -5.17    | 4.67      | 20.31     | 0.57             | 20.84      | 77.05       |



**Scientific  
Drilling**

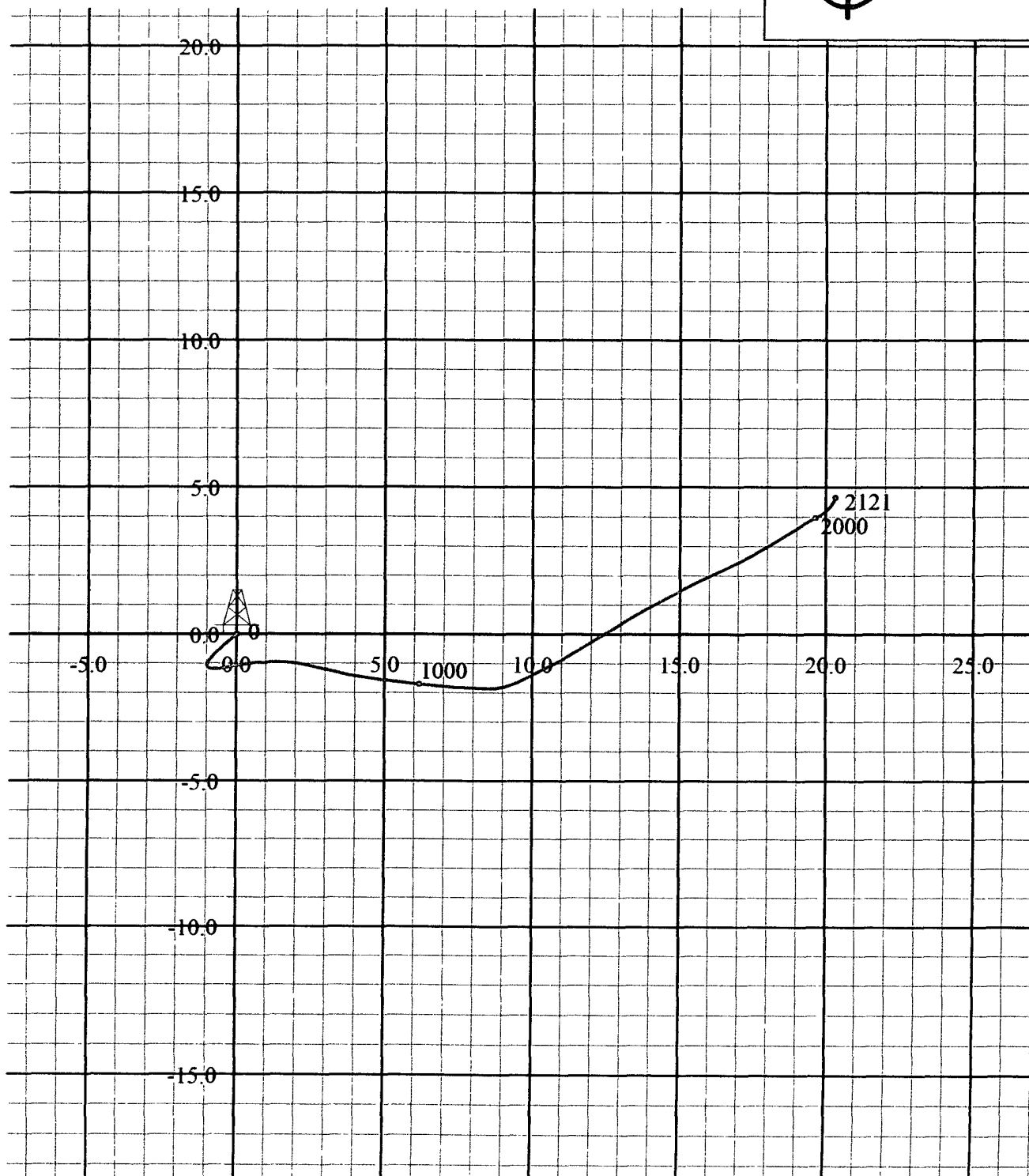
Field: North Seven Rivers  
Site: Eddy County, NM  
Well: Moose Federal Com #7H  
Wellpath: VH - Job #32K1009414  
Survey: 10/06/09



Azimuths to Grid North  
True North: 0.00°  
Magnetic North: 0.00°

Magnetic Field  
Strength: 0nT  
Dip Angle: 0.00°  
Date: 10/08/2009  
Model: igrf2000

South(-)/North(+) [5ft/in]



West(-)/East(+) [5ft/in]



# **Marbob**

Eddy County  
Noose Federal  
Noose Fed #7  
OH

Survey: MWD #1

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

12 October, 2009

# **PATHFINDER**



Pathfinder Energy Services  
Pathfinder X & Y Survey Report



Company: Marbob  
Project: Eddy County  
Site: Noose Federal  
Well: Noose Fed #7  
Wellbore: OH  
Design: OH

Local Co-ordinate Reference: Well Noose Fed #7  
TVD Reference: WELL @ 3490.00ft (Teaco #1 14' KB Correction)  
MD Reference: WELL @ 3490.00ft (Teaco #1 14' KB Correction)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: Midland Database

|             |                                      |               |                |
|-------------|--------------------------------------|---------------|----------------|
| Project     | Eddy County                          |               |                |
| Map System: | US State Plane 1927 (Exact solution) | System Datum: | Mean Sea Level |
| Geo Datum:  | NAD 1927 (NADCON CONUS)              |               |                |
| Map Zone:   | New Mexico East 3001                 |               |                |

Site: Noose Federal

|                       |         |     |              |                |                   |                   |
|-----------------------|---------|-----|--------------|----------------|-------------------|-------------------|
| Site Position:        | From:   | Map | Northing:    | 585,835.300 ft | Latitude:         | 32° 36' 37.799 N  |
|                       |         |     | Easting:     | 460,335.700 ft | Longitude:        | 104° 27' 43.724 W |
| Position Uncertainty: | 0.00 ft |     | Slot Radius: | "              | Grid Convergence: | -0.07 °           |

Well: Noose Fed #7

|                      |         |         |                     |                |               |                  |
|----------------------|---------|---------|---------------------|----------------|---------------|------------------|
| Well Position        | +N/-S   | 0.00 ft | Northing:           | 590,490.400 ft | Latitude:     | 32° 37' 23.899 N |
|                      | +E/-W   | 0.00 ft | Easting:            | 463,325.900 ft | Longitude:    | 104° 27' 8.826 W |
| Position Uncertainty | 0.00 ft |         | Wellhead Elevation: | ft             | Ground Level: | 3,476.00 ft      |

Wellbore: OH

| Magnetics | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|-----------|------------|-------------|--------------------|------------------|------------------------|
|           | IGRF200510 | 10/10/2009  | 8.21               | 60.46            | 48,953                 |

Design: OH

Audit Notes:

Version: 1.0      Phase: ACTUAL      Tie On Depth: 0.00

| Vertical Section: | Depth From (TVD)<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Direction<br>(°) |
|-------------------|--------------------------|---------------|---------------|------------------|
|                   | 0.00                     | 0.00          | 0.00          | 181.40           |



# Pathfinder Energy Services

## Pathfinder X & Y Survey Report



**Company:** Marbob  
**Project:** Eddy County  
**Site:** Moose Federal  
**Well:** Moose Fed #7  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well Moose Fed #7  
**TVD Reference:** WELL @ 3490.00ft (Teaco #1 14' KB Correction)  
**MD Reference:** WELL @ 3490.00ft (Teaco #1 14' KB Correction)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Database:** Midland Database

**Survey Program**      **Date** 10/12/2009

| From (ft) | To (ft)  | Survey (Wellbore) | Tool Name  | Description                 |
|-----------|----------|-------------------|------------|-----------------------------|
| 100.00    | 2,121.00 | GYRO (OH)         | CB-GYRO-MS | Camera based gyro multishot |
| 2,221.00  | 7,100.00 | MWD #1 (OH)       | MWD        | MWD - Standard              |

### Survey

| MD (ft)  | Inc (°) | Azi (°) | TVD (ft) | TVDSS (ft) | N/S (ft) | E/W (ft) | V. Sec (ft) | DLeg (°/100ft) | Northing (ft) | Easting (ft) |
|----------|---------|---------|----------|------------|----------|----------|-------------|----------------|---------------|--------------|
| 2,121.00 | 0.30    | 34.47   | 2,120.83 | -1,369.17  | 4.67     | 20.31    | -5.17       | 0.00           | 590,495.07    | 463,346.21   |
| 2,221.00 | 1.93    | 185.03  | 2,220.82 | -1,269.18  | 3.21     | 20.31    | -3.71       | 2.20           | 590,493.61    | 463,346.21   |
| 2,252.00 | 5.63    | 183.88  | 2,251.74 | -1,238.26  | 1.17     | 20.16    | -1.66       | 11.94          | 590,491.57    | 463,346.06   |
| 2,283.00 | 9.15    | 184.40  | 2,282.48 | -1,207.52  | -2.80    | 19.87    | 2.32        | 11.36          | 590,487.60    | 463,345.77   |
| 2,314.00 | 12.84   | 184.58  | 2,312.91 | -1,177.09  | -8.70    | 19.40    | 8.22        | 11.90          | 590,481.70    | 463,345.30   |
| 2,345.00 | 16.53   | 184.40  | 2,342.89 | -1,147.11  | -16.53   | 18.79    | 16.07       | 11.90          | 590,473.87    | 463,344.69   |
| 2,376.00 | 20.14   | 183.96  | 2,372.31 | -1,117.69  | -26.25   | 18.08    | 25.80       | 11.65          | 590,464.15    | 463,343.98   |
| 2,407.00 | 23.65   | 183.88  | 2,401.07 | -1,088.93  | -37.79   | 17.29    | 37.35       | 11.32          | 590,452.61    | 463,343.19   |
| 2,438.00 | 26.47   | 182.21  | 2,429.15 | -1,060.85  | -50.90   | 16.61    | 50.47       | 9.38           | 590,439.50    | 463,342.51   |
| 2,469.00 | 30.42   | 182.29  | 2,456.40 | -1,033.60  | -65.65   | 16.03    | 65.24       | 12.74          | 590,424.75    | 463,341.93   |
| 2,500.00 | 34.38   | 181.86  | 2,482.57 | -1,007.43  | -82.24   | 15.43    | 81.84       | 12.80          | 590,408.16    | 463,341.33   |
| 2,531.00 | 37.99   | 182.21  | 2,507.59 | -982.41    | -100.53  | 14.78    | 100.14      | 11.66          | 590,389.87    | 463,340.68   |
| 2,563.00 | 41.50   | 184.40  | 2,532.19 | -957.81    | -120.95  | 13.58    | 120.58      | 11.81          | 590,369.45    | 463,339.48   |
| 2,594.00 | 45.02   | 186.07  | 2,554.76 | -935.24    | -142.10  | 11.64    | 141.77      | 11.94          | 590,348.30    | 463,337.54   |
| 2,625.00 | 49.15   | 186.78  | 2,575.87 | -914.13    | -164.66  | 9.09     | 164.38      | 13.43          | 590,325.74    | 463,334.99   |
| 2,656.00 | 52.85   | 186.34  | 2,595.37 | -894.63    | -188.59  | 6.34     | 188.37      | 11.99          | 590,301.81    | 463,332.24   |
| 2,687.00 | 56.19   | 186.25  | 2,613.36 | -876.64    | -213.67  | 3.57     | 213.52      | 10.78          | 590,276.73    | 463,329.47   |
| 2,718.00 | 59.18   | 185.55  | 2,629.93 | -860.07    | -239.73  | 0.88     | 239.64      | 9.83           | 590,250.67    | 463,326.78   |
| 2,749.00 | 62.08   | 185.63  | 2,645.14 | -844.86    | -266.61  | -1.75    | 266.58      | 9.36           | 590,223.79    | 463,324.15   |
| 2,780.00 | 66.30   | 186.43  | 2,658.63 | -831.37    | -294.36  | -4.68    | 294.39      | 13.81          | 590,196.04    | 463,321.22   |
| 2,811.00 | 70.43   | 186.43  | 2,670.06 | -819.94    | -322.99  | -7.91    | 323.09      | 13.32          | 590,167.41    | 463,317.99   |



# Pathfinder Energy Services

## Pathfinder X & Y Survey Report



Company: Marbob  
Project: Eddy County  
Site: Moose Federal  
Well: Moose Fed #7  
Wellbore: OH  
Design: OH

Local Co-ordinate Reference:  
TVD Reference:  
MD Reference:  
North Reference:  
Survey Calculation Method:  
Database:

Well Moose Fed #7  
WELL @ 3490.00ft (Teaco #1 14' KB Correction)  
WELL @ 3490.00ft (Teaco #1 14' KB Correction)  
Grid  
Minimum Curvature  
Midland Database

### Survey

| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 2,842.00   | 74.22      | 185.63     | 2,679.47    | -810.53       | -352.36     | -11.01      | 352.52         | 12.47             | 590,138.04       | 463,314.89      |
| 2,873.00   | 77.47      | 184.93     | 2,687.05    | -802.95       | -382.28     | -13.77      | 382.51         | 10.71             | 590,108.12       | 463,312.13      |
| 2,905.00   | 80.02      | 184.23     | 2,693.29    | -796.71       | -413.57     | -16.28      | 413.84         | 8.25              | 590,076.83       | 463,309.62      |
| 2,936.00   | 82.75      | 183.35     | 2,697.94    | -792.06       | -444.15     | -18.30      | 444.46         | 9.24              | 590,046.25       | 463,307.60      |
| 2,967.00   | 85.30      | 182.21     | 2,701.16    | -788.84       | -474.94     | -19.80      | 475.28         | 9.00              | 590,015.46       | 463,306.10      |
| 2,998.00   | 88.46      | 180.85     | 2,702.85    | -787.15       | -505.88     | -20.62      | 506.23         | 11.09             | 589,984.52       | 463,305.28      |
| 3,029.00   | 90.13      | 180.90     | 2,703.23    | -786.77       | -536.87     | -21.10      | 537.22         | 5.39              | 589,953.53       | 463,304.80      |
| 3,091.00   | 90.04      | 180.61     | 2,703.14    | -786.86       | -598.86     | -21.91      | 599.22         | 0.49              | 589,891.54       | 463,303.99      |
| 3,152.00   | 89.78      | 180.44     | 2,703.23    | -786.77       | -659.86     | -22.47      | 660.21         | 0.51              | 589,830.54       | 463,303.43      |
| 3,214.00   | 89.63      | 180.15     | 2,703.55    | -786.45       | -721.86     | -22.79      | 722.20         | 0.53              | 589,768.54       | 463,303.11      |
| 3,276.00   | 89.08      | 179.92     | 2,704.25    | -785.75       | -783.86     | -22.83      | 784.18         | 0.96              | 589,706.54       | 463,303.07      |
| 3,338.00   | 89.78      | 180.19     | 2,704.87    | -785.13       | -845.85     | -22.89      | 846.16         | 1.21              | 589,644.55       | 463,303.01      |
| 3,401.00   | 89.78      | 180.12     | 2,705.11    | -784.89       | -908.85     | -23.06      | 909.14         | 0.11              | 589,581.55       | 463,302.84      |
| 3,463.00   | 90.84      | 181.72     | 2,704.77    | -785.23       | -970.84     | -24.05      | 971.14         | 3.10              | 589,519.56       | 463,301.85      |
| 3,524.00   | 90.84      | 182.00     | 2,703.88    | -786.12       | -1,031.80   | -26.03      | 1,032.13       | 0.46              | 589,458.60       | 463,299.87      |
| 3,586.00   | 90.66      | 181.83     | 2,703.07    | -786.93       | -1,093.76   | -28.11      | 1,094.12       | 0.40              | 589,396.64       | 463,297.79      |
| 3,679.00   | 90.66      | 181.72     | 2,702.00    | -788.00       | -1,186.71   | -30.99      | 1,187.11       | 0.12              | 589,303.69       | 463,294.91      |
| 3,772.00   | 90.66      | 181.68     | 2,700.93    | -789.07       | -1,279.66   | -33.75      | 1,280.11       | 0.04              | 589,210.74       | 463,292.15      |
| 3,865.00   | 90.40      | 181.28     | 2,700.07    | -789.93       | -1,372.63   | -36.15      | 1,373.10       | 0.51              | 589,117.77       | 463,289.75      |
| 3,958.00   | 90.04      | 180.78     | 2,699.71    | -790.29       | -1,465.61   | -37.82      | 1,466.10       | 0.66              | 589,024.79       | 463,288.08      |
| 4,050.00   | 89.69      | 180.27     | 2,699.93    | -790.07       | -1,557.61   | -38.66      | 1,558.09       | 0.67              | 588,932.79       | 463,287.24      |
| 4,143.00   | 89.43      | 180.20     | 2,700.64    | -789.36       | -1,650.60   | -39.04      | 1,651.06       | 0.29              | 588,839.80       | 463,286.86      |
| 4,236.00   | 89.52      | 180.07     | 2,701.49    | -788.51       | -1,743.60   | -39.26      | 1,744.04       | 0.17              | 588,746.80       | 463,286.64      |
| 4,359.00   | 89.43      | 179.71     | 2,702.62    | -787.38       | -1,866.59   | -39.03      | 1,866.99       | 0.30              | 588,623.81       | 463,286.87      |
| 4,423.00   | 89.96      | 181.05     | 2,702.96    | -787.04       | -1,930.59   | -39.45      | 1,930.98       | 2.25              | 588,559.81       | 463,286.45      |
| 4,516.00   | 89.96      | 180.77     | 2,703.02    | -786.98       | -2,023.58   | -40.93      | 2,023.97       | 0.30              | 588,466.82       | 463,284.97      |
| 4,578.00   | 90.31      | 180.82     | 2,702.88    | -787.12       | -2,085.57   | -41.79      | 2,085.97       | 0.57              | 588,404.83       | 463,284.11      |



Pathfinder Energy Services  
Pathfinder X & Y Survey Report



Company: Marbob  
Project: Eddy County  
Site: Noose Federal  
Well: Noose Fed #7  
Wellbore: OH  
Design: OH

Local Co-ordinate Reference: Well Noose Fed #7  
TVD Reference: WELL @ 3490.00ft (Teaco #1 14' KB Correction)  
MD Reference: WELL @ 3490.00ft (Teaco #1 14' KB Correction)  
North Reference: Gnd  
Survey Calculation Method: Minimum Curvature  
Database: Midland Database

Survey

| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 4,671.00   | 90.78      | 180.58     | 2,701.99    | -788.01       | -2,178.56   | -42.92      | 2,178.96       | 0.57              | 588,311.84       | 463,282.98      |
| 4,764.00   | 91.28      | 180.84     | 2,700.32    | -789.68       | -2,271.54   | -44.08      | 2,271.94       | 0.61              | 588,218.86       | 463,281.82      |
| 4,857.00   | 89.78      | 180.49     | 2,699.46    | -790.54       | -2,364.52   | -45.16      | 2,364.92       | 1.66              | 588,125.88       | 463,280.74      |
| 4,950.00   | 90.22      | 180.14     | 2,699.46    | -790.54       | -2,457.52   | -45.67      | 2,457.90       | 0.60              | 588,032.88       | 463,280.23      |
| 5,042.00   | 88.37      | 180.37     | 2,700.59    | -789.41       | -2,549.51   | -46.08      | 2,549.88       | 2.03              | 587,940.89       | 463,279.82      |
| 5,134.00   | 88.46      | 180.26     | 2,703.14    | -786.86       | -2,641.47   | -46.58      | 2,641.82       | 0.15              | 587,848.93       | 463,279.32      |
| 5,227.00   | 88.90      | 180.93     | 2,705.28    | -784.72       | -2,734.44   | -47.55      | 2,734.79       | 0.86              | 587,755.96       | 463,278.35      |
| 5,320.00   | 88.55      | 180.37     | 2,707.35    | -782.65       | -2,827.41   | -48.60      | 2,827.76       | 0.71              | 587,662.99       | 463,277.30      |
| 5,413.00   | 88.90      | 181.06     | 2,709.42    | -780.58       | -2,920.38   | -49.76      | 2,920.73       | 0.83              | 587,570.02       | 463,276.14      |
| 5,505.00   | 89.60      | 182.05     | 2,710.62    | -779.38       | -3,012.34   | -52.26      | 3,012.72       | 1.32              | 587,478.06       | 463,273.64      |
| 5,598.00   | 91.10      | 182.50     | 2,710.06    | -779.94       | -3,105.26   | -55.95      | 3,105.70       | 1.68              | 587,385.14       | 463,269.95      |
| 5,691.00   | 91.28      | 181.86     | 2,708.12    | -781.88       | -3,198.17   | -59.49      | 3,198.67       | 0.71              | 587,292.23       | 463,266.41      |
| 5,781.00   | 91.28      | 181.55     | 2,706.11    | -783.89       | -3,288.11   | -62.16      | 3,288.65       | 0.34              | 587,202.29       | 463,263.74      |
| 5,877.00   | 91.45      | 181.47     | 2,703.83    | -786.17       | -3,384.05   | -64.69      | 3,384.62       | 0.20              | 587,106.35       | 463,261.21      |
| 5,971.00   | 90.75      | 181.40     | 2,702.02    | -787.98       | -3,478.00   | -67.05      | 3,478.60       | 0.75              | 587,012.40       | 463,258.85      |
| 6,064.00   | 90.22      | 180.95     | 2,701.24    | -788.76       | -3,570.98   | -68.95      | 3,571.60       | 0.75              | 586,919.42       | 463,256.95      |
| 6,159.00   | 89.96      | 180.60     | 2,701.09    | -788.91       | -3,665.97   | -70.24      | 3,666.59       | 0.46              | 586,824.43       | 463,255.66      |
| 6,253.00   | 89.52      | 179.99     | 2,701.51    | -788.49       | -3,759.97   | -70.72      | 3,760.57       | 0.80              | 586,730.43       | 463,255.18      |
| 6,346.00   | 89.25      | 179.15     | 2,702.51    | -787.49       | -3,852.96   | -70.02      | 3,853.52       | 0.95              | 586,637.44       | 463,255.88      |
| 6,440.00   | 89.69      | 179.30     | 2,703.38    | -786.62       | -3,946.95   | -68.75      | 3,947.45       | 0.49              | 586,543.45       | 463,257.15      |
| 6,534.00   | 90.04      | 179.55     | 2,703.60    | -786.40       | -4,040.94   | -67.81      | 4,041.39       | 0.46              | 586,449.46       | 463,258.09      |
| 6,628.00   | 90.40      | 179.76     | 2,703.24    | -786.76       | -4,134.94   | -67.24      | 4,135.35       | 0.44              | 586,355.46       | 463,258.66      |
| 6,722.00   | 90.40      | 179.38     | 2,702.59    | -787.41       | -4,228.93   | -66.54      | 4,229.30       | 0.40              | 586,261.47       | 463,259.36      |
| 6,816.00   | 90.40      | 179.08     | 2,701.93    | -788.07       | -4,322.92   | -65.28      | 4,323.23       | 0.32              | 586,167.48       | 463,260.62      |
| 6,911.00   | 90.40      | 179.02     | 2,701.27    | -788.73       | -4,417.91   | -63.70      | 4,418.14       | 0.06              | 586,072.49       | 463,262.20      |
| 7,004.00   | 90.48      | 179.01     | 2,700.55    | -789.45       | -4,510.89   | -62.10      | 4,511.06       | 0.09              | 585,979.51       | 463,263.80      |
| 7,054.00   | 90.66      | 179.46     | 2,700.05    | -789.95       | -4,560.88   | -61.43      | 4,561.02       | 0.97              | 585,929.52       | 463,264.47      |



# Pathfinder Energy Services

## Pathfinder X & Y Survey Report



Company: Marbob  
Project: Eddy County  
Site: Moose Federal  
Well: Moose Fed #7  
Wellbore: OH  
Design: OH

Local Co-ordinate Reference: Well Moose Fed #7  
TVD Reference: WELL @ 3490.00ft (Teaco #1 14' KB Correction)  
MD Reference: WELL @ 3490.00ft (Teaco #1 14' KB Correction)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: Midland Database

### Survey

| MD<br>(ft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | N/S<br>(ft) | E/W<br>(ft) | V. Sec<br>(ft) | DLeg<br>(°/100ft) | Northing<br>(ft) | Easting<br>(ft) |
|------------|------------|------------|-------------|---------------|-------------|-------------|----------------|-------------------|------------------|-----------------|
| 7,100.00   | 90.66      | 179.46     | 2,699.52    | -790.48       | -4,606.88   | -61.00      | 4,606.99       | 0.00              | 585,883.52       | 463,264.90      |

Proj To Bit -7100.00'MD,90.66°INC,179.46°AZI, 2699.52'TVD, 4606.99'VS, -4606.88'N, -61.00'E

### Targets

#### Target Name

| - hit/miss target                                                              | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Northing<br>(ft) | Easting<br>(ft) | Latitude         | Longitude         |
|--------------------------------------------------------------------------------|------------------|-----------------|-------------|---------------|---------------|------------------|-----------------|------------------|-------------------|
| PBHL(#7H)                                                                      | 0 00             | 0 00            | 2,700.00    | -4,646.50     | -114.40       | 585,843.900      | 463,211 500     | 32° 36' 37.917 N | 104° 27' 10 103 W |
| - survey misses by 66.49ft at 7100 00ft MD (2699 52 TVD, -4606.88 N, -61.00 E) |                  |                 |             |               |               |                  |                 |                  |                   |
| - Point                                                                        |                  |                 |             |               |               |                  |                 |                  |                   |

### Survey Annotations

| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Local Coordinates |               | Comment                                                             |
|---------------------------|---------------------------|-------------------|---------------|---------------------------------------------------------------------|
|                           |                           | +N/-S<br>(ft)     | +E/-W<br>(ft) |                                                                     |
| 7,100.00                  | 2,699.52                  | -4,606.88         | -61.00        | Proj To Bit -7100.00'MD,90.66°INC,179.46°AZI, 2699.52'TVD, 4606.99' |

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

S<sub>u</sub>F: 330' FML, 1880' FEL  
EOL: 343' FSL, 1941' FEL



An Operating Unit of Smith International, Inc.

## ***DIRECTIONAL SURVEY REPORT***

**MARBOB ENERGY CORPORATION**

***NOOSE FEDERAL 7***

**EDDY COUNTY, NEW MEXICO**

**PREPARED BY: FRANCISCO SINISTERRA**

Pathfinder Energy Services, Inc.  
6213 W. Interstate 20 • Midland, TX • 79706  
(432) 681-6000

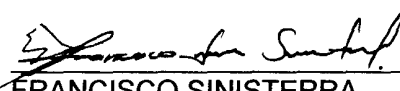
## DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:  
A) NICHOLAS TVRDY
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 10/06/09 TO 10/10/09
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

MARBOB ENERGY CORPORATION  
NOOSE FEDERAL 7  
EDDY COUNTY, NM  
RIG: TEACO 1

9. SURVEY CERTIFIED FROM: 2221 TO 7054 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE  
DISPLACED AT 4607.32 FEET ON A BEARING OF 180.76 DEGREES FROM THE  
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 7100 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: 10/07/2009  
Date Completed: 10/10/2009

MARBOB ENERGY  
NOOSE FEDERAL #7  
EDDY COUNTY, NEW MEXICO  
Rig:TEACO #1  
PathFinder Office Supervisor: FRANCISCO SINISTERRA  
PathFinder Field Engineers:R. DONARUMMA  
N. TVRDY

Survey Horiz. Reference:WELLHEAD  
Ref Coordinates: LAT:32.37.23.8988 N LON:104.27.8.8261 W  
GRID Reference:NAD27 new mexico east Transverse Mercator  
Ref GRID Coord: X: 463325.9000 Y: 590490.4000  
North Aligned To:GRID NORTH  
Total Magnetic Correction: 8.27° EAST TO GRID  
Vertical Section Plane: 181.40  
Survey Vert. Reference: 14.00' Kelly Bushing To Ground  
Altitude:3476.00' Ground To MSL

|                       |                |             |
|-----------------------|----------------|-------------|
| Measured Depth        | 7100.00        | (feet)      |
| Inclination           | 90.66          | (deg)       |
| Azimuth               | 179.46         | (deg)       |
| True Vertical Depth   | 2699.63        | (feet)      |
| Vertical Section      | 4607.04        | (feet)      |
| Survey X cord         | 463264.72      | (feet)      |
| Survey Y cord         | 585883.48      | (feet)      |
| Survey Lat            | 32.61064148 N  | (deg)       |
| Survey Lon            | 104.45263363 W | (deg)       |
| Rectangular Corr. N/S | 4606.92 S      | (feet)      |
| Rectangular Corr. E/W | 61.18 W        | (feet)      |
| Closure Distance      | 4607.32        | (feet)      |
| Direction of Closure  | 180.76         | (deg)       |
| Dogleg Severity       | 0.00           | (deg/100ft) |

# PathFinder Energy Services, Inc.

## Survey Report

MARBOB ENERGY

NOOSE FEDERAL #7

EDDY COUNTY, NEW MEXICO

Rig:TEACO #1

PathFinder Office Supervisor: FRANCISCO SINISTERRA

PathFinder Field Engineers: R. DONARUMMA

N. TVRDY

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:32.37.23.8988 N LON:104.27.8.8261 W

Reference:NAD27 new mexico east Transverse Mercator

Ref GRID Coord: X: 463325.9000 Y: 590490.4000

North Aligned To:GRID NORTH

Total Magnetic Correction: 8.27° EAST TO GRID

Vertical Section Plane: 181.40

Survey Vert. Reference: 14.00' Kelly Bushing To Ground

Altitude:3476.00' Ground To MSL

Survey Calculations by RX5 V5.11i 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 ARE SCIENTIFIC GYRO SURVEYS.      |               |                        |             |                          |                             |                                           |         |                                   |        |                   |
| 100.00                                          | 0.56          | 229.75                 | 100.00      | 0.00                     | 0.34                        | 0.33 S                                    | 0.38 W  | 0.50@                             | 229.41 | 0.00              |
| 200.00                                          | 0.37          | 215.14                 | 200.00      | 100.00                   | 0.93                        | 0.91 S                                    | 0.94 W  | 1.31@                             | 226.05 | 0.22              |
| 300.00                                          | 0.32          | 92.62                  | 300.00      | 100.00                   | 1.20                        | 1.18 S                                    | 0.85 W  | 1.46@                             | 215.61 | 0.61              |
| 400.00                                          | 0.43          | 76.90                  | 400.00      | 100.00                   | 1.12                        | 1.11 S                                    | 0.20 W  | 1.13@                             | 190.38 | 0.15              |
| 500.00                                          | 0.52          | 83.40                  | 499.99      | 100.00                   | 0.96                        | 0.97 S                                    | 0.61 E  | 1.15@                             | 147.85 | 0.10              |
| 600.00                                          | 0.55          | 92.03                  | 599.99      | 100.00                   | 0.90                        | 0.94 S                                    | 1.54 E  | 1.81@                             | 121.34 | 0.09              |
| 700.00                                          | 0.68          | 105.24                 | 699.98      | 100.00                   | 1.05                        | 1.11 S                                    | 2.60 E  | 2.82@                             | 113.20 | 0.19              |
| 800.00                                          | 0.71          | 101.24                 | 799.98      | 100.00                   | 1.30                        | 1.39 S                                    | 3.78 E  | 4.02@                             | 110.20 | 0.06              |
| 900.00                                          | 0.69          | 96.09                  | 899.97      | 100.00                   | 1.45                        | 1.57 S                                    | 4.98 E  | 5.22@                             | 107.53 | 0.07              |
| 1000.00                                         | 0.66          | 96.26                  | 999.96      | 100.00                   | 1.55                        | 1.70 S                                    | 6.15 E  | 6.38@                             | 105.45 | 0.03              |
| 1100.00                                         | 0.66          | 93.53                  | 1099.96     | 100.00                   | 1.62                        | 1.80 S                                    | 7.30 E  | 7.52@                             | 103.84 | 0.03              |
| 1200.00                                         | 0.62          | 91.91                  | 1199.95     | 100.00                   | 1.65                        | 1.85 S                                    | 8.42 E  | 8.62@                             | 102.41 | 0.04              |
| 1300.00                                         | 0.66          | 65.73                  | 1299.94     | 100.00                   | 1.40                        | 1.63 S                                    | 9.48 E  | 9.62@                             | 99.78  | 0.29              |
| 1400.00                                         | 0.74          | 62.15                  | 1399.94     | 100.00                   | 0.84                        | 1.10 S                                    | 10.58 E | 10.63@                            | 95.91  | 0.09              |
| 1500.00                                         | 0.85          | 57.24                  | 1499.93     | 100.00                   | 0.10                        | 0.39 S                                    | 11.77 E | 11.78@                            | 91.91  | 0.13              |
| 1600.00                                         | 0.96          | 59.08                  | 1599.91     | 100.00                   | -0.76                       | 0.44 N                                    | 13.11 E | 13.12@                            | 88.08  | 0.11              |
| 1700.00                                         | 1.12          | 61.74                  | 1699.90     | 100.00                   | -1.69                       | 1.33 N                                    | 14.69 E | 14.75@                            | 84.82  | 0.17              |
| 1800.00                                         | 1.21          | 65.80                  | 1799.88     | 100.00                   | -2.63                       | 2.23 N                                    | 16.52 E | 16.67@                            | 82.32  | 0.12              |
| 1900.00                                         | 1.11          | 57.23                  | 1899.86     | 100.00                   | -3.63                       | 3.19 N                                    | 18.30 E | 18.57@                            | 80.12  | 0.20              |
| 2000.00                                         | 0.67          | 62.92                  | 1999.84     | 100.00                   | -4.45                       | 3.98 N                                    | 19.63 E | 20.03@                            | 78.55  | 0.45              |
| 2100.00                                         | 0.37          | 17.49                  | 2099.84     | 100.00                   | -5.04                       | 4.55 N                                    | 20.25 E | 20.75@                            | 77.34  | 0.49              |
| ** TIED INTO SCIENTIFIC GYRO SURVEY @ 2121' MD. |               |                        |             |                          |                             |                                           |         |                                   |        |                   |
| 2121.00                                         | 0.30          | 34.47                  | 2120.84     | 21.00                    | -5.15                       | 4.66 N                                    | 20.30 E | 20.83@                            | 77.07  | 0.57              |

# PathFinder Energy Services, Inc.

## Survey Report

MARBOB ENERGY  
NOOSE FEDERAL #7  
EDDY COUNTY, NEW MEXICO  
RIG:TEACO #1

Page 02/04

| 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 ARE PATHFINDER SURVEYS. |               |                        |             |                          |                             |                                           |         |                                   |        |                   |
| 2221.00                               | 1.93          | 185.02                 | 2220.82     | 100.00                   | -3.69                       | 3.20 N                                    | 20.30 E | 20.55@                            | 81.05  | 2.20              |
| 2252.00                               | 5.63          | 183.88                 | 2251.75     | 31.00                    | -1.65                       | 1.16 N                                    | 20.15 E | 20.19@                            | 86.70  | 11.94             |
| 2283.00                               | 9.15          | 184.40                 | 2282.49     | 31.00                    | 2.33                        | 2.82 S                                    | 19.86 E | 20.06@                            | 98.07  | 11.36             |
| 2314.00                               | 12.84         | 184.58                 | 2312.91     | 31.00                    | 8.23                        | 8.71 S                                    | 19.40 E | 21.26@                            | 114.18 | 11.90             |
| 2345.00                               | 16.53         | 184.40                 | 2342.90     | 31.00                    | 16.08                       | 16.54 S                                   | 18.78 E | 25.03@                            | 131.37 | 11.90             |
| 2376.00                               | 20.14         | 183.96                 | 2372.32     | 31.00                    | 25.82                       | 26.27 S                                   | 18.08 E | 31.88@                            | 145.47 | 11.65             |
| 2407.00                               | 23.65         | 183.88                 | 2401.08     | 31.00                    | 37.36                       | 37.80 S                                   | 17.29 E | 41.56@                            | 155.42 | 11.32             |
| 2438.00                               | 26.47         | 182.21                 | 2429.16     | 31.00                    | 50.49                       | 50.91 S                                   | 16.60 E | 53.55@                            | 161.94 | 9.38              |
| 2469.00                               | 30.42         | 182.29                 | 2456.41     | 31.00                    | 65.25                       | 65.66 S                                   | 16.02 E | 67.58@                            | 166.29 | 12.74             |
| 2500.00                               | 34.38         | 181.86                 | 2482.58     | 31.00                    | 81.85                       | 82.26 S                                   | 15.42 E | 83.69@                            | 169.38 | 12.80             |
| 2531.00                               | 37.99         | 182.21                 | 2507.59     | 31.00                    | 100.15                      | 100.54 S                                  | 14.77 E | 101.62@                           | 171.64 | 11.66             |
| 2563.00                               | 41.50         | 184.40                 | 2532.20     | 32.00                    | 120.59                      | 120.96 S                                  | 13.57 E | 121.72@                           | 173.60 | 11.81             |
| 2594.00                               | 45.02         | 186.07                 | 2554.77     | 31.00                    | 141.79                      | 142.11 S                                  | 11.63 E | 142.59@                           | 175.32 | 11.94             |
| 2625.00                               | 49.15         | 186.78                 | 2575.87     | 31.00                    | 164.40                      | 164.67 S                                  | 9.08 E  | 164.92@                           | 176.84 | 13.43             |
| 2656.00                               | 52.85         | 186.34                 | 2595.38     | 31.00                    | 188.39                      | 188.60 S                                  | 6.33 E  | 188.70@                           | 178.08 | 11.99             |
| 2687.00                               | 56.19         | 186.25                 | 2613.37     | 31.00                    | 213.53                      | 213.69 S                                  | 3.57 E  | 213.72@                           | 179.04 | 10.78             |
| 2718.00                               | 59.18         | 185.55                 | 2629.94     | 31.00                    | 239.65                      | 239.74 S                                  | 0.88 E  | 239.74@                           | 179.79 | 9.83              |
| 2748.00                               | 62.08         | 185.63                 | 2644.65     | 30.00                    | 265.72                      | 265.76 S                                  | 1.67 W  | 265.76@                           | 180.36 | 9.67              |
| 2780.00                               | 66.30         | 186.43                 | 2658.58     | 32.00                    | 294.43                      | 294.40 S                                  | 4.70 W  | 294.44@                           | 180.91 | 13.38             |
| 2811.00                               | 70.43         | 186.43                 | 2670.01     | 31.00                    | 323.13                      | 323.03 S                                  | 7.93 W  | 323.13@                           | 181.41 | 13.32             |
| 2842.00                               | 74.22         | 185.63                 | 2679.42     | 31.00                    | 352.56                      | 352.40 S                                  | 11.03 W | 352.57@                           | 181.79 | 12.47             |
| 2873.00                               | 77.47         | 184.93                 | 2687.00     | 31.00                    | 382.55                      | 382.32 S                                  | 13.79 W | 382.57@                           | 182.07 | 10.71             |
| 2905.00                               | 80.02         | 184.23                 | 2693.24     | 32.00                    | 413.88                      | 413.61 S                                  | 16.30 W | 413.93@                           | 182.26 | 8.25              |
| 2936.00                               | 82.75         | 183.35                 | 2697.89     | 31.00                    | 444.50                      | 444.19 S                                  | 18.32 W | 444.56@                           | 182.36 | 9.24              |
| 2967.00                               | 85.30         | 182.21                 | 2701.11     | 31.00                    | 475.32                      | 474.98 S                                  | 19.82 W | 475.39@                           | 182.39 | 9.00              |
| 2998.00                               | 88.46         | 180.85                 | 2702.80     | 31.00                    | 506.27                      | 505.92 S                                  | 20.64 W | 506.34@                           | 182.34 | 11.09             |

# PathFinder Energy Services, Inc.

## Survey Report

MARBOB ENERGY  
NOOSE FEDERAL #7  
EDDY COUNTY, NEW MEXICO  
RIG:TEACO #1

Page 03/04

| 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<br>(ft) | Dir<br>(deg) | DLS<br>(dg/100ft) |
|---------------------------|---------------|------------------------|-------------|--------------------------|-----------------------------|-------------------------------------------|---------|-------------------------|--------------|-------------------|
| 3029.00                   | 90.13         | 180.90                 | 2703.18     | 31.00                    | 537.27                      | 536.91 S                                  | 21.12 W | 537.32@                 | 182.25       | 5.39              |
| 3091.00                   | 90.04         | 180.61                 | 2703.09     | 62.00                    | 599.26                      | 598.90 S                                  | 21.93 W | 599.31@                 | 182.10       | 0.49              |
| 3152.00                   | 89.78         | 180.44                 | 2703.19     | 61.00                    | 660.25                      | 659.90 S                                  | 22.49 W | 660.28@                 | 181.95       | 0.51              |
| 3214.00                   | 89.43         | 180.15                 | 2703.61     | 62.00                    | 722.24                      | 721.90 S                                  | 22.81 W | 722.26@                 | 181.81       | 0.73              |
| 3276.00                   | 89.08         | 179.92                 | 2704.42     | 62.00                    | 784.22                      | 783.89 S                                  | 22.85 W | 784.23@                 | 181.67       | 0.68              |
| 3338.00                   | 89.78         | 180.19                 | 2705.04     | 62.00                    | 846.20                      | 845.89 S                                  | 22.91 W | 846.20@                 | 181.55       | 1.21              |
| 3401.00                   | 89.78         | 180.12                 | 2705.28     | 63.00                    | 909.18                      | 908.89 S                                  | 23.08 W | 909.18@                 | 181.45       | 0.11              |
| 3463.00                   | 90.84         | 181.72                 | 2704.94     | 62.00                    | 971.18                      | 970.88 S                                  | 24.07 W | 971.18@                 | 181.42       | 3.10              |
| 3524.00                   | 90.84         | 182.00                 | 2704.05     | 61.00                    | 1032.17                     | 1031.84 S                                 | 26.05 W | 1032.17@                | 181.45       | 0.46              |
| 3586.00                   | 90.66         | 181.83                 | 2703.24     | 62.00                    | 1094.16                     | 1093.80 S                                 | 28.12 W | 1094.16@                | 181.47       | 0.40              |
| 3679.00                   | 90.66         | 181.72                 | 2702.17     | 93.00                    | 1187.15                     | 1186.75 S                                 | 31.01 W | 1187.15@                | 181.50       | 0.12              |
| 3772.00                   | 90.66         | 181.68                 | 2701.09     | 93.00                    | 1280.14                     | 1279.70 S                                 | 33.76 W | 1280.15@                | 181.51       | 0.04              |
| 3865.00                   | 90.40         | 181.28                 | 2700.23     | 93.00                    | 1373.14                     | 1372.67 S                                 | 36.17 W | 1373.14@                | 181.51       | 0.51              |
| 3958.00                   | 90.04         | 180.78                 | 2699.88     | 93.00                    | 1466.14                     | 1465.65 S                                 | 37.84 W | 1466.14@                | 181.48       | 0.66              |
| 4050.00                   | 89.69         | 180.27                 | 2700.09     | 92.00                    | 1558.12                     | 1557.64 S                                 | 38.68 W | 1558.12@                | 181.42       | 0.67              |
| 4143.00                   | 89.43         | 180.20                 | 2700.81     | 93.00                    | 1651.10                     | 1650.64 S                                 | 39.06 W | 1651.10@                | 181.36       | 0.29              |
| 4236.00                   | 89.52         | 180.07                 | 2701.66     | 93.00                    | 1744.08                     | 1743.64 S                                 | 39.28 W | 1744.08@                | 181.29       | 0.17              |
| 4329.00                   | 89.43         | 179.71                 | 2702.51     | 93.00                    | 1837.04                     | 1836.63 S                                 | 39.10 W | 1837.05@                | 181.22       | 0.40              |
| 4423.00                   | 89.96         | 181.05                 | 2703.01     | 94.00                    | 1931.02                     | 1930.63 S                                 | 39.73 W | 1931.04@                | 181.18       | 1.53              |
| 4516.00                   | 89.96         | 180.77                 | 2703.08     | 93.00                    | 2024.02                     | 2023.62 S                                 | 41.20 W | 2024.03@                | 181.17       | 0.30              |
| 4578.00                   | 90.31         | 180.82                 | 2702.93     | 62.00                    | 2086.01                     | 2085.61 S                                 | 42.06 W | 2086.03@                | 181.16       | 0.57              |
| 4671.00                   | 90.75         | 180.58                 | 2702.07     | 93.00                    | 2179.00                     | 2178.60 S                                 | 43.20 W | 2179.03@                | 181.14       | 0.54              |
| 4764.00                   | 91.28         | 180.84                 | 2700.42     | 93.00                    | 2271.98                     | 2271.58 S                                 | 44.35 W | 2272.01@                | 181.12       | 0.63              |
| 4857.00                   | 89.78         | 180.49                 | 2699.56     | 93.00                    | 2364.97                     | 2364.56 S                                 | 45.43 W | 2365.00@                | 181.10       | 1.66              |
| 4950.00                   | 90.22         | 180.14                 | 2699.56     | 93.00                    | 2457.95                     | 2457.56 S                                 | 45.94 W | 2457.99@                | 181.07       | 0.60              |
| 5042.00                   | 88.37         | 180.31                 | 2700.70     | 92.00                    | 2549.92                     | 2549.55 S                                 | 46.30 W | 2549.97@                | 181.04       | 2.02              |
| 5134.00                   | 88.46         | 180.26                 | 2703.24     | 92.00                    | 2641.87                     | 2641.51 S                                 | 46.76 W | 2641.93@                | 181.01       | 0.11              |

# PathFinder Energy Services, Inc.

## Survey Report

MARBOB ENERGY  
NOOSE FEDERAL #7  
EDDY COUNTY, NEW MEXICO  
RIG:TEACO #1

Page 04/04

| 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) |
|--------------------------------------------|---------------|------------------------|-------------|--------------------------|-----------------------------|-------------------------------------------|---------|-----------------------------------|--------|-------------------|
| 5227.00                                    | 88.90         | 180.93                 | 2705.38     | 93.00                    | 2734.83                     | 2734.48 S                                 | 47.73 W | 2734.90@                          | 181.00 | 0.86              |
| 5320.00                                    | 88.55         | 180.37                 | 2707.45     | 93.00                    | 2827.80                     | 2827.45 S                                 | 48.78 W | 2827.87@                          | 180.99 | 0.71              |
| 5413.00                                    | 88.90         | 181.06                 | 2709.52     | 93.00                    | 2920.77                     | 2920.42 S                                 | 49.94 W | 2920.85@                          | 180.98 | 0.83              |
| 5505.00                                    | 89.60         | 182.05                 | 2710.73     | 92.00                    | 3012.76                     | 3012.38 S                                 | 52.44 W | 3012.83@                          | 181.00 | 1.32              |
| 5598.00                                    | 91.10         | 182.50                 | 2710.16     | 93.00                    | 3105.74                     | 3105.30 S                                 | 56.13 W | 3105.81@                          | 181.04 | 1.68              |
| 5691.00                                    | 91.28         | 181.86                 | 2708.23     | 93.00                    | 3198.72                     | 3198.21 S                                 | 59.67 W | 3198.77@                          | 181.07 | 0.71              |
| 5781.00                                    | 91.28         | 181.55                 | 2706.22     | 90.00                    | 3288.69                     | 3288.15 S                                 | 62.34 W | 3288.74@                          | 181.09 | 0.34              |
| 5877.00                                    | 91.45         | 181.47                 | 2703.93     | 96.00                    | 3384.66                     | 3384.09 S                                 | 64.87 W | 3384.71@                          | 181.10 | 0.20              |
| 5971.00                                    | 90.75         | 181.40                 | 2702.12     | 94.00                    | 3478.65                     | 3478.04 S                                 | 67.23 W | 3478.69@                          | 181.11 | 0.75              |
| 6064.00                                    | 90.22         | 180.95                 | 2701.34     | 93.00                    | 3571.64                     | 3571.02 S                                 | 69.13 W | 3571.69@                          | 181.11 | 0.75              |
| 6159.00                                    | 89.96         | 180.60                 | 2701.19     | 95.00                    | 3666.64                     | 3666.01 S                                 | 70.42 W | 3666.69@                          | 181.10 | 0.46              |
| 6253.00                                    | 89.52         | 179.99                 | 2701.61     | 94.00                    | 3760.62                     | 3760.01 S                                 | 70.90 W | 3760.68@                          | 181.08 | 0.80              |
| 6346.00                                    | 89.25         | 179.15                 | 2702.61     | 93.00                    | 3853.56                     | 3853.00 S                                 | 70.20 W | 3853.64@                          | 181.04 | 0.95              |
| 6440.00                                    | 89.69         | 179.30                 | 2703.48     | 94.00                    | 3947.49                     | 3946.98 S                                 | 68.93 W | 3947.59@                          | 181.00 | 0.49              |
| 6534.00                                    | 90.04         | 179.55                 | 2703.70     | 94.00                    | 4041.43                     | 4040.98 S                                 | 67.99 W | 4041.55@                          | 180.96 | 0.46              |
| 6628.00                                    | 90.40         | 179.76                 | 2703.34     | 94.00                    | 4135.39                     | 4134.98 S                                 | 67.42 W | 4135.53@                          | 180.93 | 0.44              |
| 6722.00                                    | 90.40         | 179.38                 | 2702.69     | 94.00                    | 4229.34                     | 4228.97 S                                 | 66.72 W | 4229.50@                          | 180.90 | 0.40              |
| 6816.00                                    | 90.40         | 179.08                 | 2702.03     | 94.00                    | 4323.27                     | 4322.96 S                                 | 65.45 W | 4323.46@                          | 180.87 | 0.32              |
| 6911.00                                    | 90.40         | 179.02                 | 2701.37     | 95.00                    | 4418.19                     | 4417.95 S                                 | 63.88 W | 4418.41@                          | 180.83 | 0.06              |
| 7004.00                                    | 90.48         | 179.01                 | 2700.65     | 93.00                    | 4511.10                     | 4510.93 S                                 | 62.28 W | 4511.36@                          | 180.79 | 0.09              |
| 7054.00                                    | 90.66         | 179.46                 | 2700.15     | 50.00                    | 4561.07                     | 4560.92 S                                 | 61.61 W | 4561.34@                          | 180.77 | 0.97              |
| STRAIGHT LINE PROJECTION TO BIT @ 7100'MD. |               |                        |             |                          |                             |                                           |         |                                   |        |                   |
| 7100.00                                    | 90.66         | 179.46                 | 2699.63     | 46.00                    | 4607.04                     | 4606.92 S                                 | 61.18 W | 4607.32@                          | 180.76 | 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.



## TIE-IN SURVEY INFORMATION SHEET

### CLIENT INFORMATION

|                           |                            |    |     |
|---------------------------|----------------------------|----|-----|
| CLIENT:                   | MARBOB ENERGY CORPORATION  |    |     |
| LEASE / WELL No.:         | NOOSE FEDERAL              | #7 |     |
| WELL LOCATION:            | EDDY COUNTY                |    |     |
| COUNTY / STATE / COUNTRY: | EDDY                       | NM | USA |
| RIG:                      | TEACO #1                   |    |     |
| API WELL No:              | 30-015-37285               |    |     |
| JOB No:                   | 101009054 WT-WT            |    |     |
| P.O. / AFE No.            |                            |    |     |
| DIRECTIONAL COMPANY:      | PATHFINDER ENERGY SERVICES |    |     |

### WELL SITE INFORMATION

|                                  |                                                                                                        |                 |                   |
|----------------------------------|--------------------------------------------------------------------------------------------------------|-----------------|-------------------|
| TOTAL MAGNETIC CORRECTION (TMC): |                                                                                                        |                 |                   |
| On Wall Plat:                    | 8.27                                                                                                   | LWD Calculated: | 8.27166           |
|                                  |                                                                                                        | Agreed Upon:    | 8.27              |
| X =                              | 463325.900000                                                                                          | Feet            | Y = 590490.400000 |
|                                  |                                                                                                        |                 | Feet              |
| SITE LATITUDE:                   | 32.623305 N                                                                                            | SITE LONGITUDE: | 104.452452 W      |
| GRID SYSTEM:                     | TRUE <input type="checkbox"/> UTM <input checked="" type="checkbox"/> LAMBERT <input type="checkbox"/> | ZONE:           | NEW MEXICO EAST   |
| PROPOSED DRIFT DIRECTION:        | 181.4                                                                                                  |                 |                   |
| KELLY BUSHING ELEVATION:         | 14                                                                                                     |                 |                   |
| ALTITUDE:                        | 3476                                                                                                   | Feet            | WATER DEPTH:      |
|                                  |                                                                                                        |                 | Feet              |

### TIE-IN SURVEY

|                                    |                                                                     |                                        |                                                         |
|------------------------------------|---------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------|
| MEASURED DEPTH:                    | 2121                                                                |                                        |                                                         |
| DRIFT ANGLE:                       | 0.3                                                                 |                                        |                                                         |
| DRIFT DIRECTION:                   | 34.47                                                               |                                        |                                                         |
| TRUE VERTICAL DEPTH:               | 2120.84                                                             |                                        |                                                         |
| VERTICAL SECTION:                  | -5.16                                                               |                                        |                                                         |
| RECTANGULAR COORDINATE ( N / S ) : | 4.66                                                                |                                        |                                                         |
| RECTANGULAR COORDINATE ( E / W ) : | 20.3                                                                |                                        |                                                         |
| CLOSURE DISTANCE / DIRECTION:      | 20.82                                                               | 77.06                                  |                                                         |
| 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 ): | SCIENTIFIC DRILLING                                                 |                                        |                                                         |
| COPY OF TIE-IN SURVEY REPORT       | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |                                        |                                                         |

### WELL PLAN

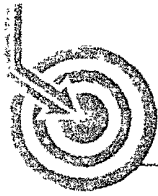
|                |      |              |       |
|----------------|------|--------------|-------|
| KICKOFF DEPTH: | 2121 | TOTAL DEPTH: | 7100  |
| KICKOFF ANGLE: | 0.3  | MAX ANGLE:   | 91.45 |

PES Engineers: H DONARUMMA  
N TVRDY

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

Directional Driller: JESSE CALVERT / JOSHUA PHILIPS

DATE: 6-Oct-2009



# Scientific Drilling

## Gyroscopic Survey Report for MARBOB

|                           |                                          |
|---------------------------|------------------------------------------|
| <b>Well Location</b>      | EDDY COUNTY, NEW MEXICO                  |
| <b>Well Name</b>          | NOOSE FEDERAL NO.7                       |
| <b>Rig Name</b>           | TEACO NO.1                               |
| <b>Survey Date</b>        | 10/7/2009                                |
| <b>Latitude</b>           | 32.62 deg                                |
| <b>North Reference</b>    | Grid North                               |
| <b>Grid Correction</b>    | 0.07 deg                                 |
| <b>Depth Reference</b>    | RKB                                      |
| <b>Calculation Method</b> | Minimum Curvature                        |
| <b>Section (VS) Ref</b>   | 0.00N (ft), 0.00E (ft), 181.40Azim (deg) |
| <b>Definitive Survey</b>  | FINAL GYRO SURVEY                        |
| <b>Operator</b>           | ANGEL GUEBARA                            |

**Comments**



## Survey Report

Well Name: NOOSE FEDERAL NO.7  
Survey: FINAL GYRO SURVEY  
Survey Date: 10/7/2009

| MD      | Inc  | Azim   | TVD     | VS    | Northing | Easting | DLS       | Closure Distance | Closure Angle |
|---------|------|--------|---------|-------|----------|---------|-----------|------------------|---------------|
| ft      | deg  | deg    | ft      | ft    | ft       | ft      | deg/100ft | ft               | deg           |
| 0.00    | 0.00 | 0.00   | 0.00    | 0.00  | 0.00     | 0.00    | Invalid   | 0.00             | 0.00          |
| 100.00  | 0.56 | 229.75 | 100.00  | 0.32  | -0.32    | -0.37   | 0.56      | 0.49             | 229.75        |
| 200.00  | 0.37 | 215.14 | 200.00  | 0.92  | -0.90    | -0.93   | 0.22      | 1.30             | 226.11        |
| 300.00  | 0.32 | 92.62  | 299.99  | 1.20  | -1.18    | -0.84   | 0.61      | 1.45             | 215.64        |
| 400.00  | 0.43 | 76.90  | 399.99  | 1.11  | -1.11    | -0.21   | 0.15      | 1.13             | 190.51        |
| 500.00  | 0.52 | 83.40  | 499.99  | 0.95  | -0.97    | 0.61    | 0.11      | 1.15             | 147.82        |
| 600.00  | 0.55 | 92.03  | 599.98  | 0.90  | -0.93    | 1.54    | 0.08      | 1.80             | 121.23        |
| 700.00  | 0.68 | 105.24 | 699.98  | 1.04  | -1.11    | 2.59    | 0.19      | 2.81             | 113.15        |
| 800.00  | 0.71 | 101.24 | 799.97  | 1.29  | -1.38    | 3.76    | 0.06      | 4.01             | 110.17        |
| 900.00  | 0.69 | 96.09  | 899.96  | 1.44  | -1.57    | 4.97    | 0.06      | 5.21             | 107.49        |
| 1000.00 | 0.66 | 96.26  | 999.96  | 1.54  | -1.69    | 6.14    | 0.03      | 6.37             | 105.41        |
| 1100.00 | 0.66 | 93.53  | 1099.95 | 1.61  | -1.79    | 7.29    | 0.03      | 7.51             | 103.80        |
| 1200.00 | 0.62 | 91.91  | 1199.94 | 1.64  | -1.84    | 8.41    | 0.04      | 8.61             | 102.38        |
| 1300.00 | 0.66 | 65.73  | 1299.94 | 1.40  | -1.63    | 9.47    | 0.29      | 9.61             | 99.75         |
| 1400.00 | 0.74 | 62.15  | 1399.93 | 0.83  | -1.09    | 10.56   | 0.09      | 10.62            | 95.91         |
| 1500.00 | 0.85 | 57.24  | 1499.92 | 0.11  | -0.39    | 11.75   | 0.13      | 11.76            | 91.91         |
| 1600.00 | 0.96 | 59.08  | 1599.91 | -0.76 | 0.44     | 13.09   | 0.12      | 13.10            | 88.08         |
| 1700.00 | 1.12 | 61.74  | 1699.89 | -1.69 | 1.34     | 14.68   | 0.17      | 14.74            | 84.80         |
| 1800.00 | 1.21 | 65.80  | 1799.87 | -2.64 | 2.23     | 16.51   | 0.12      | 16.66            | 82.29         |
| 1900.00 | 1.11 | 57.23  | 1899.85 | -3.64 | 3.19     | 18.29   | 0.20      | 18.57            | 80.10         |
| 2000.00 | 0.67 | 62.92  | 1999.84 | -4.46 | 3.98     | 19.63   | 0.44      | 20.03            | 78.53         |
| 2100.00 | 0.37 | 17.49  | 2099.83 | -5.05 | 4.56     | 20.24   | 0.49      | 20.75            | 77.32         |
| 2121.00 | 0.30 | 34.47  | 2120.84 | -5.16 | 4.66     | 20.30   | 0.56      | 20.82            | 77.06         |

# PathFinder Energy Services, Inc.

## Magnetic & Grid Calculations

MARBOB ENERGY  
NOOSE FEDERAL COM #7H  
EDDY COUNTY, NEW MEXICO  
Rig:TEACO 1

Mon Oct 05 17:33:37 2009

---

### Coordinates

Latitude: 32.623305 N ( 32 deg. 37 min. 23.8988 sec.)  
Longitude: 104.452452 W (-104 deg. 27 min. 8.8261 sec.)  
Elevation: 3490.00 feet.  
Calculation Date: Oct/05/2009

---

### Magnetic Calculations

Model: IGRF2005  
Dip Angle: 60.4597 degrees  
Total Magnetic Field: 0.48955 gauss  
Magnetic Declination: 8.207441 degrees  
Horizontal Intensity: 0.241367 gauss  
To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.207441 Degr

---

### Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east  
Ellipsoid: Clarke 1866  
X: 463325.9000 feet  
Y: 590490.4000 feet  
True to Grid: (convergence) 0.064218 degrees  
Magnetic to Grid: 8.271660 degrees  
To Convert a Magnetic Dir. to a GRID dir. Add 8.271660 Degr.

SEP 22 2009

ATS-09-444  
LM

## OCD-ARTESIA

Form 3160-3  
(February 2005)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No 1004-0137  
Expires March 31, 20075 Lease Serial No. **NM111942 BHL**  
NMNM 113927-SHL

6 If Indian, Alitoe or Tribe Name

7 If Unit or CA Agreement, Name and No

8 Lease Name and Well No.  
**Noose Federal Com #7H**9 API Well No.  
**30 05 37285**10 Field and Pool, or Exploratory  
**North Seven Rivers; Glorieta-Yeso**11 Sec, T, R, M or Blk and Survey or Area  
**Section 35, T19S - R25E**12 County or Parish  
**Eddy County**13 State  
**NM**1a. Type of work ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone2 Name of Operator  
**Marbob Energy Corporation**3a Address **P.O. Box 227, Artesia, NM 88211-0227**3b Phone No. (include area code)  
**575-748-3303**

4. Location of Well (Report location clearly and in accordance with any State requirements \*)

At surface **330' FNL & 1880' FEL**At proposed prod zone **330' FSL & 1980' FEL**14 Distance in miles and direction from nearest town or post office\*  
**About 5.5 miles from Lakewood, NM**15 Distance from proposed\*  
location to nearest  
property or lease line, ft  
(Also to nearest drig unit line, if any) **330'**16 No of acres in lease  
**320.00**17 Spacing Unit dedicated to this well  
**160**18 Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft19 Proposed Depth  
**7143' MD**  
**2720' TYD (OPERATOR)**20 BLM/BIA Bond No. on file  
**NMB000412**21 Elevations (Show whether DF, KDB, RT, GL, etc )  
**3476' GL**22 Approximate date work will start\*  
**07/10/2009**23 Estimated duration  
**20 Days**

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, must be attached to this form

- |                                                                                                                                              |                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 1 Well plat certified by a registered surveyor                                                                                               | 4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above) |
| 2 A Drilling Plan                                                                                                                            | 5 Operator certification                                                                      |
| 3 A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office) | 6 Such other site specific information and/or plans as may be required by the BLM.            |

25 Signature  
**Nancy T. Agnew**  
Title  
**Land Department**Name (Printed/Typed)  
**Nancy T. Agnew**Date  
**06/10/2009**Approved by (Signature)  
**/s/ DAVID D. EVANS**  
Title  
**FIELD MANAGER**Name (Printed/Typed)  
**/s/ DAVID D. EVANS**  
Office  
**CARLSBAD FIELD OFFICE**Date  
**SEP 18 2009**Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon  
Conditions of approval, if any, are attached.**APPROVAL FOR TWO YEARS**

Title 18 USC Section 1001 and Title 43 USC Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

\*(Instructions on page 2)

Roswell Controlled Water Basin

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL****Approval Subject to General Requirements  
& Special Stipulations Attached**

## DISTRICT I

1625 N. FRENCH DR., HOBBBS, NM 88240

## DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

## DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

## DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources DepartmentOIL CONSERVATION DIVISION  
1220 SOUTH ST. FRANCIS DR.  
Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005  
Submit to Appropriate District Office  
State Leases - 4 Copies  
Fee Leases - 3 Copies

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

|               |                                                   |                           |
|---------------|---------------------------------------------------|---------------------------|
| API Number    | Pool Code                                         | Pool Name                 |
| Property Code | Property Name<br><b>NOOSE FEDERAL COM</b>         | Well Number<br><b>7H</b>  |
| OCRID No.     | Operator Name<br><b>MARBOB ENERGY CORPORATION</b> | Elevation<br><b>3476'</b> |

## Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| B             | 35      | 19-S     | 25-E  |         | 330           | NORTH            | 1880          | EAST           | EDDY   |

## Bottom Hole Location If Different From Surface

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| O             | 35      | 19-S     | 25-E  |         | 330           | SOUTH            | 1980          | EAST           | EDDY   |

|                 |                 |                    |           |
|-----------------|-----------------|--------------------|-----------|
| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
|-----------------|-----------------|--------------------|-----------|

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

|                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>DETAIL</b></p> <p>3473.4' 3465.5' 3475.3' 3468.0'</p> <p>800' 800'</p> <p>SEE DETAIL</p> <p>330' S.L.</p> <p>1880'</p>                                                    | <p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> |
| <p><b>GEODETIC COORDINATES</b></p> <p>NAD 27 NME</p> <p><b>SURFACE LOCATION</b></p> <p>Y=590490.4 N</p> <p>X=463325.9 E</p> <p>LAT.=32.623305° N</p> <p>LONG.=104.452452° W</p> | <p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>Date Surveyed: 29 MAY 2009</p> <p>Signature &amp; Seal of Professional Surveyor</p> <p><i>Ronald J. Eidson</i> 06/04/09</p>                                                                                                                                                                                                            |
| <p><b>BOTTOM HOLE LOCATION</b></p> <p>Y=585843.9 N</p> <p>X=463211.5 E</p>                                                                                                      | <p>Certificate No. GARY EIDSON 12641</p> <p>RONALD J. EIDSON 3238</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |