



**PHOENIX**

**TECHNOLOGY SERVICES USA INC.**

*Celebrating 20 Years of Focused Solutions*

3610 Elkins Road, Midland, Texas 79705 T. 432.684.0057 F. 432.686.7964 www.phxtech.com

January 29, 2018

Railroad Commission of Texas  
Oil and Gas Division  
P.O. Box 12967  
Capitol Station  
Austin, Texas 78711

Attention: Regulatory Department

Re: Mewbourne Oil  
University B21 5 W101PA  
Winkler County, TX  
API #42-495-33990  
Job No. 62258

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced well by Phoenix Technology Services, Inc. (P-5 No. 664171). Other information required by your office is as follows:

| Name & Title of Surveyor | Drain Hole Number | Surveyed Depths |     | Dates Performed |         | Type of Survey |
|--------------------------|-------------------|-----------------|-----|-----------------|---------|----------------|
|                          |                   | From            | To  | Start           | End     |                |
| Andy Askew               | W101PA            | 0               | 336 | 1/28/18         | 1/28/18 | Gyro           |

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

*Brittany Carley*

Brittany Carley  
Operations Administrator



Company: Mewbourne  
 Well: University B21 5 W101PA  
 Location: Winkler Co., TX  
 Rig: Patterson 243

Job Number: 62258  
 Grid Corr.: 1.51  
 Lat: 31.77  
 Long: -103.25

Date: 01-28-18  
 Calculation Method: Minimum Curvature  
 Proposed Azimuth: \_\_\_\_\_  
 RKB - MSL in feet: 29  
 Tie Into: Surface

| Survey Tool Type                      | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates |          | Closure       |             | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100')                |  |
|---------------------------------------|-------------------|-------------------|---------------|--------------------|--------------------------|-----------------------|-------------|----------|---------------|-------------|--------------------------|---------------------|-----------------------------------|--|
|                                       |                   |                   |               |                    |                          |                       | N/S (ft)    | E/W (ft) | Distance (ft) | Angle (deg) |                          |                     |                                   |  |
| <b>Enter Tie-In Survey on Line 10</b> |                   |                   |               |                    |                          |                       |             |          |               |             |                          |                     | <b>FIELD COPY, NON-DEFINITIVE</b> |  |
| TIE IN                                | 0                 |                   |               | 0                  | 0                        | 0                     | 0           | 0        |               |             |                          |                     |                                   |  |
| Gyro                                  | 100.00            | 0.23              | 341.72        | 100                | 100.00                   | 0.19                  | 0.19 N      | 0.06 W   | 0.20          | 341.72      | 0.23                     | 0.23                | 341.72                            |  |
|                                       | 200.00            | 0.41              | 264.65        | 100                | 200.00                   | 0.35                  | 0.35 N      | 0.48 W   | 0.59          | 305.81      | 0.42                     | 0.18                | -77.07                            |  |
|                                       | 300.00            | 0.58              | 315.11        | 100                | 300.00                   | 0.67                  | 0.67 N      | 1.20 W   | 1.37          | 299.38      | 0.45                     | 0.17                | 50.46                             |  |
|                                       | 336.00            | 0.59              | 319.04        | 36                 | 335.99                   | 0.94                  | 0.94 N      | 1.45 W   | 1.73          | 303.09      | 0.11                     | 0.03                | 10.92                             |  |

# SURVEY CERTIFICATION FORM



3610 Elkins Road Midland, TX 79705 t:432-684-0057 f: 432-686-7964

Company: Mewbourne

Job #: 62258

Well Name: University B21 5 W101PA

County/State: Winkler/ TX

Survey Instrument Type: North Seek Rate Gyro

API # 42-495-33990

## TIE-IN DATA

| Measure Depth (ft) | Vertical Depth (ft) | Inclination (°) | Azimuth (°) | N-S Coordinates | E-W Coordinates | Data Source |
|--------------------|---------------------|-----------------|-------------|-----------------|-----------------|-------------|
| 0                  | 0                   | 0               | 0           | 0               | 0               | Surface     |

## First Survey

| Date       | Depth (ft) | Inclination (°) | Azimuth (°) |
|------------|------------|-----------------|-------------|
| 2018-01-28 | 0          | 0               | 0           |

## Last Survey

| Date       | Depth (ft) | Inclination (°) | Azimuth (°) |
|------------|------------|-----------------|-------------|
| 2018-01-28 | 336        | 0.59            | 319.04      |

## Projected TD Survey

| Date | Depth (ft) | Inclination (°) | Azimuth (°) |
|------|------------|-----------------|-------------|
| 0    | 0          | 0               | 0           |

| Grid Correction |
|-----------------|
| 1.51            |

Gyro Operator: Phoenix Technology Services USA Ltd.

Gyro Supervisor: Angel Guebara

To the best of my knowledge I certify this survey data to be correct and true

Date: 1-28-18

Print Name: Andy Askew

Signature:

(F-138902)

44 (F-137479)

GRID N: (Y)775803.792

GRID E: (X)1087373.638

43

6

5

MEWBOURNE OIL COMPANY

641.3 Acres

45 (F-138423)

GRID N: 777295.212

GRID E: 1092442.765

BHL/LTP/  
Terminus

# Block 21, University Lands Survey Winkler County, Texas

641.3 ACRE LEASE

Surface Hole Location (SHL)/  
Penetration Point (PP)  
GRID N: (Y)771962.014  
GRID E: (X)1092435.812  
NAD'83 Lat/Long  
Lat: +31°45'23.693"N  
Lon: -103°15'14.142"W

University B21 5

#W101MD

University B21 5

University B21 5

#W101NC

#W101OB

GRID N: (Y)770728.342  
GRID E: (X)1088856.473

First Take Point (FTP)  
550' FSL & 831' FEL

#W101PA

SHL/PP

EL. 2856'

719'

1500'

180'

KOP

180' FSL & 1010' FEL

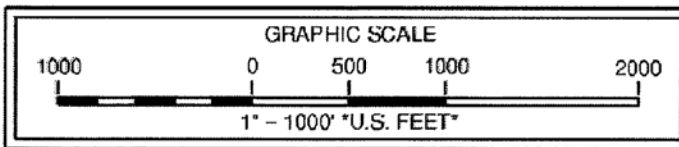
4

GRID N: 772210.046  
GRID E: 1093926.073

7

8

9



Note: Well is located 5.5 miles Northwest of the city of Wink, Texas.

Note: Survey Reconstruction filed in the Office of Pennell & Marlowe Land Surveyors, Inc.

Note: Coordinates shown herein are on The Texas Coordinate System of 1927, Central Zone.

Note: Bearings and distances are based on The Texas Coordinate System of 1927, Central Zone.

Note: Example: (S-99999) indicates General Land Office file number.

Revised 10/04/2017 - SPM

USGS Quadrangle Sheet: Cheyenne Draw SE, Tex.

Railroad Commission Permit Plat



MEWBOURNE OIL COMPANY

University B21 5 #W101PA

180' FROM SOUTH LINE

1500' FROM EAST LINE

University B21 5 Lease

641.3 Acres being all of

Section 5, Block 21

University Lands Survey

Winkler County, Texas

August 23, 2017

170823JRI-BCL

REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5715

P.O. Box 51887, Midland, Texas, 79710 (432) 262-0901 Fax (432) 262-0679

Scale: 1" = 1000'



# **Mewbourne Oil Company**

**Winkler County, Tx**

**Sec 5, Blk 21 Publick School Land Survey**

**University B21 5 #W101PA**

**Wellbore #1**

**Design: Wellbore #1**

## **QES Survey Certification Report**

**21 February, 2018**



## QES Directional Drilling, LLC

11390 FM 830  
Willis, TX 77318  
Phone: (936) 856-4332  
Fax: (936) 856-8678



3/1/2018

Railroad Commission of Texas  
Oil and Gas Division  
1701 North Congress Avenue  
Austin, Texas 78711

Attention: Pam Johns

Re: Mewbourne Oil Company  
University B2 5 #W101PA  
RRC Lease/ID No.  
UL  
Abstract No. U45  
Reeves County, Texas  
API No. 42-495-33990

Enclosed, please find the original and one (1) copy of the survey performed on the referenced well by QES Directional Drilling, LLC (P5#684437). Other information required by your office is as follows:

| Name of Surveyor | Drainhole Number | Surveyed Depths | Dates Performed      | Type of Survey |
|------------------|------------------|-----------------|----------------------|----------------|
| Brad Reed        | Original Hole    | 336' – 16970'   | 1/27/2018-02/22/2018 | MWD            |

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Sincerely,

Christopher Hughes  
MWD Compliance Manager  
QES Directional Drilling, LLC

Enclosures  
Cc: Mewbourne Oil Company

|                  |  |                                     |                                    |
|------------------|--|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Mewbourne Oil Company                    | <b>Local Co-ordinate Reference:</b> | Well University B21 5 #W101PA      |
| <b>Project:</b>  | Winkler County, Tx                       | <b>TVD Reference:</b>               | WELL @ 2883.0usft (Patterson #243) |
| <b>Site:</b>     | Sec 5, Blk 21 Publick School Land Survey | <b>MD Reference:</b>                | WELL @ 2883.0usft (Patterson #243) |
| <b>Well:</b>     | University B21 5 #W101PA                 | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                              | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Wellbore #1                              | <b>Database:</b>                    | EDM 5000.1 Single User Db          |

|                    |                                      |                      |                |
|--------------------|--------------------------------------|----------------------|----------------|
| <b>Project</b>     | Winkler County, Tx                   |                      |                |
| <b>Map System:</b> | US State Plane 1927 (Exact solution) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)              |                      |                |
| <b>Map Zone:</b>   | Texas Central 4203                   |                      |                |

|                              |  |                     |                   |                          |                   |
|------------------------------|--|---------------------|-------------------|--------------------------|-------------------|
| <b>Site</b>                  | Sec 5, Blk 21 Publick School Land Survey |                     |                   |                          |                   |
| <b>Site Position:</b>        |  | <b>Northing:</b>    | 771,947.99 usft   | <b>Latitude:</b>         | 31° 45' 23.079 N  |
| <b>From:</b>                 | Map                                      | <b>Easting:</b>     | 1,092,387.82 usft | <b>Longitude:</b>        | 103° 15' 13.082 W |
| <b>Position Uncertainty:</b> | 0.0 usft                                 | <b>Slot Radius:</b> | 13-3/16"          | <b>Grid Convergence:</b> | -1.50 °           |

|                             |                          |          |                            |                   |                      |                   |
|-----------------------------|--------------------------|----------|----------------------------|-------------------|----------------------|-------------------|
| <b>Well</b>                 | University B21 5 #W101PA |          |                            |                   |                      |                   |
| <b>Well Position</b>        | <b>+N/-S</b>             | 0.0 usft | <b>Northing:</b>           | 771,962.01 usft   | <b>Latitude:</b>     | 31° 45' 23.230 N  |
|                             | <b>+E/-W</b>             | 0.0 usft | <b>Easting:</b>            | 1,092,435.81 usft | <b>Longitude:</b>    | 103° 15' 12.530 W |
| <b>Position Uncertainty</b> |                          | 0.0 usft | <b>Wellhead Elevation:</b> | usft              | <b>Ground Level:</b> | 2,856.0 usft      |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2015          | 1/22/2018          | 6.71                   | 59.67                | 47,635.39199468            |

|                          |                                |                     |                     |                      |     |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|-----|
| <b>Design</b>            | Wellbore #1                    |                     |                     |                      |     |
| <b>Audit Notes:</b>      |                                |                     |                     |                      |     |
| <b>Version:</b>          | 1.0                            | <b>Phase:</b>       | ACTUAL              | <b>Tie On Depth:</b> | 0.0 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Direction (°)</b> |     |
|                          | 0.0                            | 0.0                 | 0.0                 | 355.23               |     |

|                       |                  |                               |                  |                       |  |
|-----------------------|------------------|-------------------------------|------------------|-----------------------|--|
| <b>Survey Program</b> | <b>Date</b>      | 2/21/2018                     |                  |                       |  |
| <b>From (usft)</b>    | <b>To (usft)</b> | <b>Survey (Wellbore)</b>      | <b>Tool Name</b> | <b>Description</b>    |  |
| 100.0                 | 336.0            | Phoenix Gyros (Wellbore #1)   | GYRO-NS          | OWSG Gyrocompass Gyro |  |
| 450.0                 | 16,970.0         | QES MWD Surveys (Wellbore #1) | MWD default      | MWD - Standard        |  |

|  |                |                          |                   |                   |                   |                                |                            |  |  |
|--|----------------|--------------------------|-------------------|-------------------|-------------------|--------------------------------|----------------------------|--|--|
| <b>Survey</b>                                  |                |                          |                   |                   |                   |                                |                            |  |  |
| <b>MD (usft)</b>                               | <b>Inc (°)</b> | <b>Azi (azimuth) (°)</b> | <b>TVD (usft)</b> | <b>N/S (usft)</b> | <b>E/W (usft)</b> | <b>Closure Distance (usft)</b> | <b>Closure Azimuth (°)</b> |  |  |
| 336.0  | 0.59           | 319.04                   | 336.0             | 0.9               | -1.4              | 1.7                            | 303.09                     |  |  |
| <b>Phoenix Tie-In @ 336.0' MD / 336.0' TVD</b> |                |                          |                   |                   |                   |                                |                            |  |  |
| 450.0  | 0.30           | 36.00                    | 450.0             | 1.6               | -1.7              | 2.3                            | 314.51                     |  |  |
| 634.0  | 2.80           | 177.10                   | 633.9             | -2.5              | -1.1              | 2.7                            | 204.83                     |  |  |
| 760.0  | 5.50           | 103.70                   | 759.7             | -7.0              | 4.9               | 8.5                            | 145.03                     |  |  |
| 952.0  | 5.80           | 101.20                   | 950.7             | -11.0             | 23.3              | 25.8                           | 115.32                     |  |  |
| 1,143.0  | 6.20           | 91.90                    | 1,140.7           | -13.3             | 43.1              | 45.1                           | 107.10                     |  |  |
| 1,333.0  | 7.20           | 96.10                    | 1,329.4           | -14.9             | 65.2              | 66.9                           | 102.84                     |  |  |
| 1,524.0  | 6.70           | 89.10                    | 1,519.0           | -16.0             | 88.3              | 89.7                           | 100.25                     |  |  |
| 1,715.0  | 6.70           | 81.50                    | 1,708.7           | -14.1             | 110.4             | 111.3                          | 97.30                      |  |  |
| 1,905.0  | 7.50           | 86.80                    | 1,897.2           | -11.8             | 133.8             | 134.3                          | 95.05                      |  |  |

|                  |  |                                     |                                    |
|------------------|--|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Mewbourne Oil Company                    | <b>Local Co-ordinate Reference:</b> | Well University B21 5 #W101PA      |
| <b>Project:</b>  | Winkler County, Tx                       | <b>TVD Reference:</b>               | WELL @ 2883.0usft (Patterson #243) |
| <b>Site:</b>     | Sec 5, Blk 21 Publick School Land Survey | <b>MD Reference:</b>                | WELL @ 2883.0usft (Patterson #243) |
| <b>Well:</b>     | University B21 5 #W101PA                 | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                              | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Wellbore #1                              | <b>Database:</b>                    | EDM 5000.1 Single User Db          |

| Survey    |         |                   |            |            |            |                         |                     |  |  |
|-----------|---------|-------------------|------------|------------|------------|-------------------------|---------------------|--|--|
| MD (usft) | Inc (°) | Azi (azimuth) (°) | TVD (usft) | N/S (usft) | E/W (usft) | Closure Distance (usft) | Closure Azimuth (°) |  |  |
| 2,092.0   | 8.10    | 92.90             | 2,082.5    | -11.8      | 159.1      | 159.5                   | 94.24               |  |  |
| 2,281.0   | 7.80    | 85.60             | 2,269.7    | -11.5      | 185.2      | 185.5                   | 93.55               |  |  |
| 2,470.0   | 7.90    | 83.80             | 2,456.9    | -9.1       | 210.9      | 211.1                   | 92.47               |  |  |
| 2,657.0   | 8.20    | 95.60             | 2,642.1    | -9.0       | 236.9      | 237.1                   | 92.18               |  |  |
| 2,846.0   | 8.00    | 96.10             | 2,829.2    | -11.7      | 263.4      | 263.7                   | 92.55               |  |  |
| 3,033.0   | 5.90    | 80.50             | 3,014.8    | -11.5      | 285.8      | 286.1                   | 92.31               |  |  |
| 3,222.0   | 7.90    | 45.70             | 3,202.5    | -0.8       | 304.7      | 304.7                   | 90.16               |  |  |
| 3,410.0   | 7.70    | 68.80             | 3,388.8    | 12.7       | 325.7      | 326.0                   | 87.76               |  |  |
| 3,599.0   | 6.20    | 83.40             | 3,576.5    | 18.5       | 347.7      | 348.2                   | 86.96               |  |  |
| 3,787.0   | 3.30    | 119.30            | 3,763.8    | 17.0       | 362.5      | 362.9                   | 87.31               |  |  |
| 3,974.0   | 3.70    | 77.50             | 3,950.5    | 15.7       | 373.1      | 373.4                   | 87.59               |  |  |
| 4,161.0   | 4.10    | 69.70             | 4,137.1    | 19.3       | 385.2      | 385.7                   | 87.13               |  |  |
| 4,348.0   | 4.20    | 76.60             | 4,323.6    | 23.2       | 398.2      | 398.8                   | 86.66               |  |  |
| 4,535.0   | 4.70    | 88.40             | 4,510.0    | 25.0       | 412.5      | 413.2                   | 86.53               |  |  |
| 4,723.0   | 5.30    | 91.90             | 4,697.3    | 24.9       | 428.9      | 429.6                   | 86.67               |  |  |
| 4,911.0   | 5.40    | 95.60             | 4,884.5    | 23.8       | 446.3      | 447.0                   | 86.95               |  |  |
| 5,060.0   | 5.40    | 102.10            | 5,032.8    | 21.6       | 460.2      | 460.7                   | 87.31               |  |  |
| 5,186.0   | 5.20    | 100.70            | 5,158.3    | 19.3       | 471.6      | 472.0                   | 87.65               |  |  |
| 5,374.0   | 4.50    | 99.40             | 5,345.6    | 16.5       | 487.2      | 487.5                   | 88.05               |  |  |
| 5,561.0   | 4.00    | 98.70             | 5,532.1    | 14.4       | 500.9      | 501.1                   | 88.36               |  |  |
| 5,749.0   | 4.50    | 82.70             | 5,719.6    | 14.3       | 514.7      | 514.9                   | 88.41               |  |  |
| 5,938.0   | 4.10    | 85.20             | 5,908.1    | 15.8       | 528.8      | 529.0                   | 88.29               |  |  |
| 6,125.0   | 4.80    | 77.50             | 6,094.5    | 18.1       | 543.1      | 543.4                   | 88.09               |  |  |
| 6,312.0   | 4.60    | 73.30             | 6,280.9    | 21.9       | 557.9      | 558.4                   | 87.75               |  |  |
| 6,500.0   | 4.00    | 65.00             | 6,468.3    | 26.9       | 571.1      | 571.7                   | 87.31               |  |  |
| 6,688.0   | 4.40    | 69.70             | 6,655.8    | 32.1       | 583.8      | 584.7                   | 86.85               |  |  |
| 6,874.0   | 4.30    | 68.70             | 6,841.3    | 37.1       | 597.0      | 598.1                   | 86.44               |  |  |
| 7,062.0   | 4.90    | 65.20             | 7,028.7    | 43.1       | 610.8      | 612.4                   | 85.97               |  |  |
| 7,249.0   | 4.80    | 67.60             | 7,215.0    | 49.4       | 625.3      | 627.3                   | 85.48               |  |  |
| 7,439.0   | 5.20    | 70.30             | 7,404.3    | 55.3       | 640.8      | 643.2                   | 85.07               |  |  |
| 7,629.0   | 4.80    | 72.90             | 7,593.6    | 60.6       | 656.5      | 659.3                   | 84.73               |  |  |
| 7,819.0   | 4.00    | 74.50             | 7,783.0    | 64.7       | 670.5      | 673.6                   | 84.49               |  |  |
| 8,009.0   | 3.90    | 72.00             | 7,972.6    | 68.4       | 683.0      | 686.4                   | 84.28               |  |  |
| 8,199.0   | 3.30    | 81.00             | 8,162.2    | 71.3       | 694.5      | 698.2                   | 84.14               |  |  |
| 8,389.0   | 4.70    | 67.80             | 8,351.7    | 75.1       | 707.2      | 711.1                   | 83.94               |  |  |
| 8,579.0   | 5.10    | 72.60             | 8,541.0    | 80.6       | 722.4      | 726.9                   | 83.64               |  |  |
| 8,769.0   | 5.40    | 74.30             | 8,730.2    | 85.5       | 739.1      | 744.0                   | 83.40               |  |  |
| 8,959.0   | 3.70    | 66.60             | 8,919.6    | 90.4       | 753.3      | 758.7                   | 83.16               |  |  |
| 9,048.0   | 2.90    | 67.40             | 9,008.5    | 92.4       | 758.0      | 763.6                   | 83.05               |  |  |
| 9,241.0   | 2.00    | 68.00             | 9,201.3    | 95.5       | 765.7      | 771.6                   | 82.89               |  |  |
| 9,428.0   | 1.90    | 67.60             | 9,388.2    | 97.9       | 771.6      | 777.7                   | 82.77               |  |  |
| 9,616.0   | 0.70    | 92.60             | 9,576.1    | 99.0       | 775.6      | 781.9                   | 82.72               |  |  |
| 9,804.0   | 0.70    | 108.90            | 9,764.1    | 98.6       | 777.8      | 784.0                   | 82.77               |  |  |
| 9,992.0   | 3.40    | 89.80             | 9,952.0    | 98.3       | 784.5      | 790.6                   | 82.86               |  |  |

|                  |  |                                     |                                    |
|------------------|--|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Mewbourne Oil Company                    | <b>Local Co-ordinate Reference:</b> | Well University B21 5 #W101PA      |
| <b>Project:</b>  | Winkler County, Tx                       | <b>TVD Reference:</b>               | WELL @ 2883.0usft (Patterson #243) |
| <b>Site:</b>     | Sec 5, Blk 21 Publick School Land Survey | <b>MD Reference:</b>                | WELL @ 2883.0usft (Patterson #243) |
| <b>Well:</b>     | University B21 5 #W101PA                 | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                              | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Wellbore #1                              | <b>Database:</b>                    | EDM 5000.1 Single User Db          |

| Survey    |         |                   |            |            |            |                         |                     |  |
|-----------|---------|-------------------|------------|------------|------------|-------------------------|---------------------|--|
| MD (usft) | Inc (°) | Azi (azimuth) (°) | TVD (usft) | N/S (usft) | E/W (usft) | Closure Distance (usft) | Closure Azimuth (°) |  |
| 10,180.0  | 4.30    | 79.10             | 10,139.6   | 99.6       | 797.0      | 803.2                   | 82.88               |  |
| 10,367.0  | 6.00    | 86.80             | 10,325.8   | 101.5      | 813.6      | 819.9                   | 82.89               |  |
| 10,555.0  | 7.20    | 85.70             | 10,512.6   | 102.9      | 835.2      | 841.5                   | 82.97               |  |
| 10,743.0  | 7.20    | 80.50             | 10,699.1   | 105.7      | 858.5      | 865.0                   | 82.98               |  |
| 10,931.0  | 6.80    | 85.00             | 10,885.7   | 108.7      | 881.3      | 887.9                   | 82.97               |  |
| 11,118.0  | 5.10    | 93.80             | 11,071.7   | 109.1      | 900.6      | 907.2                   | 83.09               |  |
| 11,305.0  | 3.60    | 112.10            | 11,258.1   | 106.3      | 914.3      | 920.5                   | 83.37               |  |
| 11,493.0  | 2.50    | 130.00            | 11,445.9   | 101.5      | 922.9      | 928.5                   | 83.73               |  |
| 11,550.0  | 2.50    | 131.80            | 11,502.8   | 99.8       | 924.8      | 930.2                   | 83.84               |  |
| 11,581.0  | 2.50    | 98.00             | 11,533.8   | 99.3       | 926.0      | 931.3                   | 83.88               |  |
| 11,613.0  | 2.70    | 35.50             | 11,565.8   | 99.8       | 927.1      | 932.5                   | 83.86               |  |
| 11,644.0  | 5.90    | 358.50            | 11,596.7   | 102.0      | 927.5      | 933.1                   | 83.72               |  |
| 11,675.0  | 10.50   | 350.50            | 11,627.4   | 106.4      | 927.0      | 933.1                   | 83.45               |  |
| 11,706.0  | 13.80   | 352.70            | 11,657.7   | 112.8      | 926.0      | 932.9                   | 83.05               |  |
| 11,737.0  | 17.10   | 350.80            | 11,687.5   | 121.0      | 924.8      | 932.7                   | 82.55               |  |
| 11,769.0  | 20.90   | 348.40            | 11,717.8   | 131.2      | 922.9      | 932.2                   | 81.91               |  |
| 11,800.0  | 24.50   | 347.50            | 11,746.4   | 142.9      | 920.4      | 931.5                   | 81.17               |  |
| 11,832.0  | 28.10   | 347.30            | 11,775.1   | 156.8      | 917.3      | 930.6                   | 80.30               |  |
| 11,863.0  | 31.90   | 349.20            | 11,801.9   | 171.9      | 914.2      | 930.2                   | 79.35               |  |
| 11,895.0  | 35.60   | 351.00            | 11,828.5   | 189.5      | 911.2      | 930.6                   | 78.25               |  |
| 11,926.0  | 39.70   | 351.20            | 11,853.0   | 208.2      | 908.2      | 931.8                   | 77.09               |  |
| 11,958.0  | 44.40   | 351.50            | 11,876.8   | 229.3      | 905.0      | 933.6                   | 75.78               |  |
| 11,989.0  | 48.00   | 351.90            | 11,898.2   | 251.5      | 901.8      | 936.2                   | 74.42               |  |
| 12,020.0  | 50.90   | 353.40            | 11,918.4   | 274.8      | 898.8      | 939.9                   | 73.00               |  |
| 12,052.0  | 55.60   | 354.00            | 11,937.5   | 300.3      | 896.0      | 945.0                   | 71.47               |  |
| 12,080.0  | 58.70   | 354.10            | 11,952.7   | 323.7      | 893.5      | 950.4                   | 70.09               |  |
| 12,168.0  | 68.50   | 354.90            | 11,991.8   | 402.1      | 886.0      | 973.0                   | 65.59               |  |
| 12,200.0  | 70.20   | 355.20            | 12,003.1   | 431.9      | 883.4      | 983.4                   | 63.95               |  |
| 12,231.0  | 70.10   | 355.40            | 12,013.6   | 461.0      | 881.0      | 994.3                   | 62.38               |  |
| 12,262.0  | 71.00   | 355.00            | 12,023.9   | 490.1      | 878.6      | 1,006.0                 | 60.85               |  |
| 12,294.0  | 72.30   | 354.50            | 12,034.0   | 520.3      | 875.8      | 1,018.7                 | 59.28               |  |
| 12,326.0  | 74.00   | 354.00            | 12,043.3   | 550.8      | 872.7      | 1,032.0                 | 57.74               |  |
| 12,357.0  | 75.40   | 354.10            | 12,051.5   | 580.5      | 869.6      | 1,045.6                 | 56.27               |  |
| 12,388.0  | 76.80   | 354.70            | 12,058.9   | 610.5      | 866.7      | 1,060.1                 | 54.84               |  |
| 12,419.0  | 77.10   | 354.90            | 12,065.9   | 640.6      | 864.0      | 1,075.5                 | 53.45               |  |
| 12,450.0  | 77.20   | 354.70            | 12,072.8   | 670.7      | 861.2      | 1,091.6                 | 52.09               |  |
| 12,482.0  | 77.50   | 354.90            | 12,079.8   | 701.8      | 858.4      | 1,108.7                 | 50.73               |  |
| 12,513.0  | 77.50   | 355.20            | 12,086.5   | 731.9      | 855.8      | 1,126.1                 | 49.46               |  |
| 12,545.0  | 76.60   | 355.50            | 12,093.7   | 763.0      | 853.3      | 1,144.6                 | 48.20               |  |
| 12,576.0  | 76.70   | 355.50            | 12,100.9   | 793.1      | 850.9      | 1,163.2                 | 47.01               |  |
| 12,607.0  | 77.30   | 355.90            | 12,107.8   | 823.2      | 848.6      | 1,182.3                 | 45.87               |  |
| 12,638.0  | 76.70   | 356.10            | 12,114.8   | 853.3      | 846.5      | 1,202.0                 | 44.77               |  |
| 12,670.0  | 79.70   | 357.70            | 12,121.4   | 884.6      | 844.8      | 1,223.2                 | 43.68               |  |
| 12,701.0  | 83.10   | 358.50            | 12,126.0   | 915.2      | 843.8      | 1,244.9                 | 42.68               |  |

|                  |  |                                     |                                    |
|------------------|--|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Mewbourne Oil Company                    | <b>Local Co-ordinate Reference:</b> | Well University B21 5 #W101PA      |
| <b>Project:</b>  | Winkler County, Tx                       | <b>TVD Reference:</b>               | WELL @ 2883.0usft (Patterson #243) |
| <b>Site:</b>     | Sec 5, Blk 21 Publick School Land Survey | <b>MD Reference:</b>                | WELL @ 2883.0usft (Patterson #243) |
| <b>Well:</b>     | University B21 5 #W101PA                 | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                              | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Wellbore #1                              | <b>Database:</b>                    | EDM 5000.1 Single User Db          |

| Survey    |         |                   |            |            |            |                         |                     |  |
|-----------|---------|-------------------|------------|------------|------------|-------------------------|---------------------|--|
| MD (usft) | Inc (°) | Azi (azimuth) (°) | TVD (usft) | N/S (usft) | E/W (usft) | Closure Distance (usft) | Closure Azimuth (°) |  |
| 12,732.0  | 86.60   | 360.00            | 12,128.8   | 946.1      | 843.4      | 1,267.4                 | 41.72               |  |
| 12,764.0  | 89.60   | 360.00            | 12,129.8   | 978.1      | 843.4      | 1,291.5                 | 40.77               |  |
| 12,795.0  | 91.40   | 356.60            | 12,129.6   | 1,009.0    | 842.5      | 1,314.5                 | 39.86               |  |
| 12,826.0  | 92.90   | 352.90            | 12,128.4   | 1,039.9    | 839.7      | 1,336.6                 | 38.92               |  |
| 12,857.0  | 94.20   | 349.40            | 12,126.5   | 1,070.5    | 834.9      | 1,357.5                 | 37.95               |  |
| 12,888.0  | 94.20   | 348.50            | 12,124.2   | 1,100.8    | 829.0      | 1,378.0                 | 36.98               |  |
| 12,919.0  | 93.90   | 345.40            | 12,122.0   | 1,130.9    | 822.0      | 1,398.1                 | 36.01               |  |
| 12,950.0  | 92.80   | 343.80            | 12,120.2   | 1,160.8    | 813.8      | 1,417.6                 | 35.03               |  |
| 13,043.0  | 90.90   | 338.90            | 12,117.2   | 1,248.8    | 784.1      | 1,474.5                 | 32.12               |  |
| 13,137.0  | 88.60   | 337.30            | 12,117.6   | 1,336.0    | 749.0      | 1,531.6                 | 29.28               |  |
| 13,230.0  | 87.10   | 338.90            | 12,121.1   | 1,422.2    | 714.3      | 1,591.5                 | 26.67               |  |
| 13,325.0  | 87.30   | 341.30            | 12,125.7   | 1,511.4    | 682.0      | 1,658.2                 | 24.29               |  |
| 13,419.0  | 92.00   | 342.50            | 12,126.3   | 1,600.8    | 652.9      | 1,728.8                 | 22.19               |  |
| 13,512.0  | 93.90   | 342.50            | 12,121.5   | 1,689.3    | 624.9      | 1,801.2                 | 20.30               |  |
| 13,606.0  | 89.80   | 340.30            | 12,118.5   | 1,778.3    | 595.0      | 1,875.2                 | 18.50               |  |
| 13,699.0  | 88.90   | 340.80            | 12,119.5   | 1,866.0    | 564.0      | 1,949.4                 | 16.82               |  |
| 13,793.0  | 88.90   | 341.70            | 12,121.4   | 1,955.0    | 533.8      | 2,026.6                 | 15.27               |  |
| 13,886.0  | 91.00   | 344.00            | 12,121.4   | 2,043.9    | 506.4      | 2,105.7                 | 13.91               |  |
| 13,979.0  | 91.50   | 345.90            | 12,119.4   | 2,133.7    | 482.2      | 2,187.5                 | 12.74               |  |
| 14,073.0  | 90.10   | 345.20            | 12,118.1   | 2,224.7    | 458.8      | 2,271.5                 | 11.65               |  |
| 14,166.0  | 89.40   | 344.00            | 12,118.5   | 2,314.3    | 434.1      | 2,354.7                 | 10.62               |  |
| 14,260.0  | 91.70   | 343.10            | 12,117.6   | 2,404.5    | 407.5      | 2,438.8                 | 9.62                |  |
| 14,353.0  | 88.20   | 341.10            | 12,117.7   | 2,493.0    | 378.9      | 2,521.6                 | 8.64                |  |
| 14,447.0  | 87.10   | 341.50            | 12,121.5   | 2,581.9    | 348.8      | 2,605.4                 | 7.69                |  |
| 14,541.0  | 91.50   | 341.30            | 12,122.7   | 2,671.0    | 318.8      | 2,689.9                 | 6.81                |  |
| 14,635.0  | 89.50   | 341.30            | 12,121.9   | 2,760.0    | 288.7      | 2,775.1                 | 5.97                |  |
| 14,729.0  | 87.80   | 338.90            | 12,124.1   | 2,848.4    | 256.7      | 2,859.9                 | 5.15                |  |
| 14,823.0  | 90.00   | 341.00            | 12,125.9   | 2,936.6    | 224.5      | 2,945.2                 | 4.37                |  |
| 14,917.0  | 91.70   | 342.20            | 12,124.5   | 3,025.8    | 194.8      | 3,032.1                 | 3.68                |  |
| 15,010.0  | 91.40   | 342.90            | 12,122.0   | 3,114.5    | 166.9      | 3,119.0                 | 3.07                |  |
| 15,104.0  | 89.60   | 341.70            | 12,121.1   | 3,204.1    | 138.3      | 3,207.0                 | 2.47                |  |
| 15,198.0  | 87.70   | 341.00            | 12,123.4   | 3,293.1    | 108.3      | 3,294.9                 | 1.88                |  |
| 15,291.0  | 90.40   | 343.60            | 12,124.9   | 3,381.7    | 80.0       | 3,382.6                 | 1.36                |  |
| 15,385.0  | 88.70   | 342.50            | 12,125.6   | 3,471.6    | 52.6       | 3,472.0                 | 0.87                |  |
| 15,479.0  | 88.60   | 342.40            | 12,127.9   | 3,561.2    | 24.3       | 3,561.2                 | 0.39                |  |
| 15,573.0  | 88.60   | 343.60            | 12,130.2   | 3,651.0    | -3.2       | 3,651.0                 | 359.95              |  |
| 15,667.0  | 90.80   | 345.90            | 12,130.6   | 3,741.7    | -27.9      | 3,741.8                 | 359.57              |  |
| 15,761.0  | 91.30   | 345.50            | 12,128.9   | 3,832.8    | -51.1      | 3,833.1                 | 359.24              |  |
| 15,855.0  | 89.30   | 344.70            | 12,128.4   | 3,923.6    | -75.3      | 3,924.3                 | 358.90              |  |
| 15,949.0  | 87.30   | 342.70            | 12,131.2   | 4,013.8    | -101.7     | 4,015.1                 | 358.55              |  |
| 16,043.0  | 87.80   | 342.90            | 12,135.2   | 4,103.5    | -129.4     | 4,105.5                 | 358.19              |  |
| 16,137.0  | 88.50   | 344.50            | 12,138.3   | 4,193.7    | -155.8     | 4,196.6                 | 357.87              |  |
| 16,230.0  | 90.00   | 345.00            | 12,139.5   | 4,283.4    | -180.3     | 4,287.2                 | 357.59              |  |
| 16,324.0  | 88.90   | 343.10            | 12,140.4   | 4,373.8    | -206.1     | 4,378.6                 | 357.30              |  |



|                  |  |                                     |                                    |
|------------------|--|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Mewbourne Oil Company                    | <b>Local Co-ordinate Reference:</b> | Well University B21 5 #W101PA      |
| <b>Project:</b>  | Winkler County, Tx                       | <b>TVD Reference:</b>               | WELL @ 2883.0usft (Patterson #243) |
| <b>Site:</b>     | Sec 5, Blk 21 Publick School Land Survey | <b>MD Reference:</b>                | WELL @ 2883.0usft (Patterson #243) |
| <b>Well:</b>     | University B21 5 #W101PA                 | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                              | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Wellbore #1                              | <b>Database:</b>                    | EDM 5000.1 Single User Db          |

| MD (usft)                              | Inc (°) | Azi (azimuth) (°) | TVD (usft) | N/S (usft) | E/W (usft) | Closure Distance (usft) | Closure Azimuth (°) |
|--|---------|-------------------|------------|------------|------------|-------------------------|---------------------|
| 16,418.0                               | 90.80   | 344.00            | 12,140.6   | 4,463.9    | -232.7     | 4,470.0                 | 357.02              |
| 16,510.0                               | 90.60   | 343.40            | 12,139.5   | 4,552.2    | -258.5     | 4,559.5                 | 356.75              |
| 16,605.0                               | 89.60   | 342.70            | 12,139.4   | 4,643.1    | -286.2     | 4,651.9                 | 356.47              |
| 16,699.0                               | 89.90   | 343.30            | 12,139.8   | 4,733.0    | -313.7     | 4,743.3                 | 356.21              |
| 16,792.0                               | 87.10   | 341.80            | 12,142.2   | 4,821.6    | -341.6     | 4,833.7                 | 355.95              |
| 16,886.0                               | 87.50   | 342.40            | 12,146.6   | 4,911.0    | -370.4     | 4,924.9                 | 355.69              |
| 16,915.0                               | 87.50   | 342.40            | 12,147.9   | 4,938.6    | -379.2     | 4,953.1                 | 355.61              |
| 16,970.0                               | 87.50   | 342.40            | 12,150.3   | 4,991.0    | -395.8     | 5,006.6                 | 355.47              |
| <b>TD @ 16970.0' MD / 12150.3' TVD</b> |         |                   |            |            |            |                         |                     |

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment                                 |
|-----------------------|-----------------------|-------------------|--------------|---|
|                       |                       | +N/-S (usft)      | +E/-W (usft) |   |
| 336.0                 | 336.0                 | 0.9               | -1.4         | Phoenix Tie-In @ 336.0' MD / 336.0' TVD |
| 16,970.0              | 12,150.3              | 4,991.0           | -395.8       | TD @ 16970.0' MD / 12150.3' TVD         |

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

44 (F-137479)  
GRID N: (Y)775803.792  
GRID E: (X)1087373.638

45 (F-138423)  
GRID N: 777285.212  
GRID E: 1092442.765

6 5

**QES Bottom Hole Location:  
5006.6' @ 355.47° From SHL  
MD: 16970' TVD: 12150.3'  
North: 4991' West: 395.8'**

### Block 21, University B21 5 Winkler County, Texas

Bottom Hole Location (BHL)/  
Last Take Point (LTP)  
GRID N: (Y)776952.988  
GRID E: (X)1092018.946  
NAD'83 Lat/Long  
Lat: +31°46'12.961"N  
Lon: -103°15'20.489"W

Surface Hole Location (SHL)/  
Penetration Point (PP)  
GRID N: (Y)771962.014  
GRID E: (X)1092435.812  
NAD'83 Lat/Long  
Lat: +31°45'23.693"N  
Lon: -103°15'14.142"W

#### Driving Directions:

Beginning in Wink, Texas at the intersection of Hwy 202 and FM 1232, head West towards Hendricks Blvd. and travel 1.5 miles.  
Turn left on CR 201 & travel 5.7 miles.  
Turn right at a lease road and travel 0.9 miles.  
Location is at coordinates Lat: +31°45'23.693"N  
Lon: -103°15'14.142"W

GRID N: (Y)770728.342  
GRID E: (X)1088856.473

University B21 5

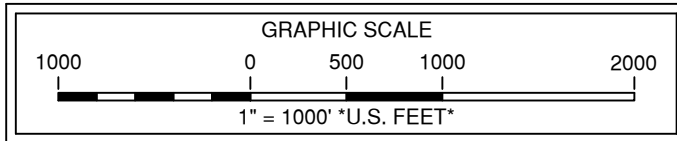
SHL/PP  
#W101PA  
EL. 2856  
#W101OB  
181

N 04°46'28" W 5008.35' (SHL/PP to BHL/LTP)

4  
GRID N: 772210.046  
GRID E: 1093926.073

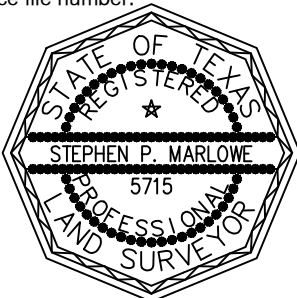
7

8 9



- Note: Well is located 5.5 miles Northwest of the city of Wink, Texas.
- Note: Survey Reconstruction filed in the Office of Pennell & Marlowe Land Surveyors, Inc.
- Note: Coordinates shown herein are on The Texas Coordinate System of 1927, Central Zone.
- Note: Bearings and distances are based on The Texas Coordinate System of 1927, Central Zone.
- Note: Example: (S-99999) indicates General Land Office file number.

Revised 10/04/2017 - SPM  
USGS Quadrangle Sheet: Cheyenne Draw SE, Tex.



*Stephen P. Marlowe*  
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5715

August 23, 2017  
170823JR1-BCL

Railroad Commission Permit Plat  
**MEWBOURNE OIL COMPANY**  
University B21 5 #W101PA  
180' FROM SOUTH LINE  
1500' FROM EAST LINE  
University B21 5 Lease  
641.3 Acres being all of  
Section 5, Block 21  
Public School Land Survey  
Winkler County, Texas

## QES Directional Drilling, LLC

11390 FM 830  
Willis, TX 77318  
Phone: (936) 856-4332  
Fax: (936) 856-8678

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March 1, 2018

Railroad Commission of Texas  
Oil and Gas Division  
1701 North Congress Avenue  
Austin, Texas 78711

I Christopher Hughes, certify that I am employed by QES Directional Drilling, LLC. That I did on the day(s) of 1/27/2018 through 2/22/2018, conduct or supervise the taking of an MWD Survey from a depth of 336' to a depth of 16970'; that the data is true, correct, complete, and within the limitations of the tool as set forth by Quintana Energy Services (QES).

I certify that I am authorized and qualified to make this report; that this survey was conducted at the request of Mewbourne Oil Company, for the University B21 5 #W101PA, API No. 42-495-33990 in Winkler County, Texas. I certify that I have reviewed this report and find that it conforms to the principles and procedures as set forth by QES Directional Drilling, LLC.

Sincerely,

Christopher Hughes  
MWD Compliance Manager  
QES Directional Drilling, LLC



# **Mewbourne Oil Company**

**Winkler County, Tx**

**Sec 5, Blk 21 Publick School Land Survey**

**University B21 5 #W101PA**

**Wellbore #1**

**Design: Wellbore #1**

## **QES Survey Report**

**21 February, 2018**



|                  |  |                                     |                                    |
|------------------|--|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Mewbourne Oil Company                    | <b>Local Co-ordinate Reference:</b> | Well University B21 5 #W101PA      |
| <b>Project:</b>  | Winkler County, Tx                       | <b>TVD Reference:</b>               | WELL @ 2883.0usft (Patterson #243) |
| <b>Site:</b>     | Sec 5, Blk 21 Publick School Land Survey | <b>MD Reference:</b>                | WELL @ 2883.0usft (Patterson #243) |
| <b>Well:</b>     | University B21 5 #W101PA                 | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                              | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Wellbore #1                              | <b>Database:</b>                    | EDM 5000.1 Single User Db          |

|                    |                                      |                      |                |
|--------------------|--------------------------------------|----------------------|----------------|
| <b>Project</b>     | Winkler County, Tx                   |                      |                |
| <b>Map System:</b> | US State Plane 1927 (Exact solution) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)              |                      |                |
| <b>Map Zone:</b>   | Texas Central 4203                   |                      |                |

|                              |  |                     |                   |                          |                   |
|------------------------------|--|---------------------|-------------------|--------------------------|-------------------|
| <b>Site</b>                  | Sec 5, Blk 21 Publick School Land Survey |                     |                   |                          |                   |
| <b>Site Position:</b>        |  | <b>Northing:</b>    | 771,947.99 usft   | <b>Latitude:</b>         | 31° 45' 23.079 N  |
| <b>From:</b>                 | Map                                      | <b>Easting:</b>     | 1,092,387.82 usft | <b>Longitude:</b>        | 103° 15' 13.082 W |
| <b>Position Uncertainty:</b> | 0.0 usft                                 | <b>Slot Radius:</b> | 13-3/16 "         | <b>Grid Convergence:</b> | -1.50 °           |

|                             |                          |          |                            |                   |                      |                   |
|-----------------------------|--------------------------|----------|----------------------------|-------------------|----------------------|-------------------|
| <b>Well</b>                 | University B21 5 #W101PA |          |                            |                   |                      |                   |
| <b>Well Position</b>        | <b>+N/-S</b>             | 0.0 usft | <b>Northing:</b>           | 771,962.01 usft   | <b>Latitude:</b>     | 31° 45' 23.230 N  |
|                             | <b>+E/-W</b>             | 0.0 usft | <b>Easting:</b>            | 1,092,435.82 usft | <b>Longitude:</b>    | 103° 15' 12.530 W |
| <b>Position Uncertainty</b> |                          | 0.0 usft | <b>Wellhead Elevation:</b> | usft              | <b>Ground Level:</b> | 2,856.0 usft      |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2015          | 1/22/2018          | 6.71                   | 59.67                | 47,635.39199469            |

|                          |                                |                     |                     |                      |     |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|-----|
| <b>Design</b>            | Wellbore #1                    |                     |                     |                      |     |
| <b>Audit Notes:</b>      |                                |                     |                     |                      |     |
| <b>Version:</b>          | 1.0                            | <b>Phase:</b>       | ACTUAL              | <b>Tie On Depth:</b> | 0.0 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Direction (°)</b> |     |
|                          | 0.0                            | 0.0                 | 0.0                 | 355.23               |     |

|                       |                  |                               |                  |                       |  |
|-----------------------|------------------|-------------------------------|------------------|-----------------------|--|
| <b>Survey Program</b> | <b>Date</b>      | 2/21/2018                     |                  |                       |  |
| <b>From (usft)</b>    | <b>To (usft)</b> | <b>Survey (Wellbore)</b>      | <b>Tool Name</b> | <b>Description</b>    |  |
| 100.0                 | 336.0            | Phoenix Gyros (Wellbore #1)   | GYRO-NS          | OWSG Gyrocompass Gyro |  |
| 450.0                 | 16,970.0         | QES MWD Surveys (Wellbore #1) | MWD default      | MWD - Standard        |  |

|  |                        |                    |                              |                     |                     |                                |                                |                               |                              |  |
|--|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|--------------------------------|-------------------------------|------------------------------|--|
| <b>Survey</b>                                  |                        |                    |                              |                     |                     |                                |                                |                               |                              |  |
| <b>Measured Depth (usft)</b>                   | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Vertical Section (usft)</b> | <b>Dogleg Rate (°/100usft)</b> | <b>Build Rate (°/100usft)</b> | <b>Turn Rate (°/100usft)</b> |  |
| 0.0  | 0.00                   | 0.00               | 0.0                          | 0.0                 | 0.0                 | 0.0                            | 0.00                           | 0.00                          | 0.00                         |  |
| 100.0  | 0.23                   | 341.72             | 100.0                        | 0.2                 | -0.1                | 0.2                            | 0.23                           | 0.23                          | 0.00                         |  |
| 200.0  | 0.41                   | 264.65             | 200.0                        | 0.3                 | -0.5                | 0.4                            | 0.42                           | 0.18                          | -77.07                       |  |
| 300.0  | 0.58                   | 315.11             | 300.0                        | 0.7                 | -1.2                | 0.8                            | 0.45                           | 0.17                          | 50.46                        |  |
| <b>Phoenix Tie-In @ 336.0' MD / 336.0' TVD</b> |                        |                    |                              |                     |                     |                                |                                |                               |                              |  |
| 336.0  | 0.59                   | 319.04             | 336.0                        | 0.9                 | -1.4                | 1.1                            | 0.11                           | 0.03                          | 10.92                        |  |
| 450.0  | 0.30                   | 36.00              | 450.0                        | 1.6                 | -1.7                | 1.8                            | 0.53                           | -0.25                         | 67.51                        |  |
| 634.0  | 2.80                   | 177.10             | 633.9                        | -2.5                | -1.1                | -2.4                           | 1.65                           | 1.36                          | 76.68                        |  |
| 760.0  | 5.50                   | 103.70             | 759.7                        | -7.0                | 4.9                 | -7.4                           | 4.29                           | 2.14                          | -58.25                       |  |
| 952.0  | 5.80                   | 101.20             | 950.7                        | -11.0               | 23.3                | -12.9                          | 0.20                           | 0.16                          | -1.30                        |  |

|                  |  |                                     |                                    |
|------------------|--|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Mewbourne Oil Company                    | <b>Local Co-ordinate Reference:</b> | Well University B21 5 #W101PA      |
| <b>Project:</b>  | Winkler County, Tx                       | <b>TVD Reference:</b>               | WELL @ 2883.0usft (Patterson #243) |
| <b>Site:</b>     | Sec 5, Blk 21 Publick School Land Survey | <b>MD Reference:</b>                | WELL @ 2883.0usft (Patterson #243) |
| <b>Well:</b>     | University B21 5 #W101PA                 | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                              | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Wellbore #1                              | <b>Database:</b>                    | EDM 5000.1 Single User Db          |

| Survey                |                 |             |                       |              |              |                         |                         |                        |                       |  |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |  |
| 1,143.0               | 6.20            | 91.90       | 1,140.7               | -13.3        | 43.1         | -16.8                   | 0.55                    | 0.21                   | -4.87                 |  |
| 1,333.0               | 7.20            | 96.10       | 1,329.4               | -14.9        | 65.2         | -20.2                   | 0.59                    | 0.53                   | 2.21                  |  |
| 1,524.0               | 6.70            | 89.10       | 1,519.0               | -16.0        | 88.3         | -23.2                   | 0.51                    | -0.26                  | -3.66                 |  |
| 1,715.0               | 6.70            | 81.50       | 1,708.7               | -14.1        | 110.4        | -23.3                   | 0.46                    | 0.00                   | -3.98                 |  |
| 1,905.0               | 7.50            | 86.80       | 1,897.2               | -11.8        | 133.8        | -22.9                   | 0.54                    | 0.42                   | 2.79                  |  |
| 2,092.0               | 8.10            | 92.90       | 2,082.5               | -11.8        | 159.1        | -25.0                   | 0.55                    | 0.32                   | 3.26                  |  |
| 2,281.0               | 7.80            | 85.60       | 2,269.7               | -11.5        | 185.2        | -26.8                   | 0.56                    | -0.16                  | -3.86                 |  |
| 2,470.0               | 7.90            | 83.80       | 2,456.9               | -9.1         | 210.9        | -26.6                   | 0.14                    | 0.05                   | -0.95                 |  |
| 2,657.0               | 8.20            | 95.60       | 2,642.1               | -9.0         | 236.9        | -28.7                   | 0.90                    | 0.16                   | 6.31                  |  |
| 2,846.0               | 8.00            | 96.10       | 2,829.2               | -11.7        | 263.4        | -33.6                   | 0.11                    | -0.11                  | 0.26                  |  |
| 3,033.0               | 5.90            | 80.50       | 3,014.8               | -11.5        | 285.8        | -35.3                   | 1.50                    | -1.12                  | -8.34                 |  |
| 3,222.0               | 7.90            | 45.70       | 3,202.5               | -0.8         | 304.7        | -26.2                   | 2.40                    | 1.06                   | -18.41                |  |
| 3,410.0               | 7.70            | 68.80       | 3,388.8               | 12.7         | 325.7        | -14.4                   | 1.66                    | -0.11                  | 12.29                 |  |
| 3,599.0               | 6.20            | 83.40       | 3,576.5               | 18.5         | 347.7        | -10.5                   | 1.22                    | -0.79                  | 7.72                  |  |
| 3,787.0               | 3.30            | 119.30      | 3,763.8               | 17.0         | 362.5        | -13.2                   | 2.14                    | -1.54                  | 19.10                 |  |
| 3,974.0               | 3.70            | 77.50       | 3,950.5               | 15.7         | 373.1        | -15.4                   | 1.35                    | 0.21                   | -22.35                |  |
| 4,161.0               | 4.10            | 69.70       | 4,137.1               | 19.3         | 385.2        | -12.8                   | 0.35                    | 0.21                   | -4.17                 |  |
| 4,348.0               | 4.20            | 76.60       | 4,323.6               | 23.2         | 398.2        | -10.0                   | 0.27                    | 0.05                   | 3.69                  |  |
| 4,535.0               | 4.70            | 88.40       | 4,510.0               | 25.0         | 412.5        | -9.4                    | 0.56                    | 0.27                   | 6.31                  |  |
| 4,723.0               | 5.30            | 91.90       | 4,697.3               | 24.9         | 428.9        | -10.8                   | 0.36                    | 0.32                   | 1.86                  |  |
| 4,911.0               | 5.40            | 95.60       | 4,884.5               | 23.8         | 446.3        | -13.4                   | 0.19                    | 0.05                   | 1.97                  |  |
| 5,060.0               | 5.40            | 102.10      | 5,032.8               | 21.6         | 460.2        | -16.7                   | 0.41                    | 0.00                   | 4.36                  |  |
| 5,186.0               | 5.20            | 100.70      | 5,158.3               | 19.3         | 471.6        | -19.9                   | 0.19                    | -0.16                  | -1.11                 |  |
| 5,374.0               | 4.50            | 99.40       | 5,345.6               | 16.5         | 487.2        | -24.0                   | 0.38                    | -0.37                  | -0.69                 |  |
| 5,561.0               | 4.00            | 98.70       | 5,532.1               | 14.4         | 500.9        | -27.3                   | 0.27                    | -0.27                  | -0.37                 |  |
| 5,749.0               | 4.50            | 82.70       | 5,719.6               | 14.3         | 514.7        | -28.5                   | 0.68                    | 0.27                   | -8.51                 |  |
| 5,938.0               | 4.10            | 85.20       | 5,908.1               | 15.8         | 528.8        | -28.2                   | 0.23                    | -0.21                  | 1.32                  |  |
| 6,125.0               | 4.80            | 77.50       | 6,094.5               | 18.1         | 543.1        | -27.2                   | 0.49                    | 0.37                   | -4.12                 |  |
| 6,312.0               | 4.60            | 73.30       | 6,280.9               | 21.9         | 557.9        | -24.6                   | 0.21                    | -0.11                  | -2.25                 |  |
| 6,500.0               | 4.00            | 65.00       | 6,468.3               | 26.9         | 571.1        | -20.7                   | 0.46                    | -0.32                  | -4.41                 |  |
| 6,688.0               | 4.40            | 69.70       | 6,655.8               | 32.1         | 583.8        | -16.5                   | 0.28                    | 0.21                   | 2.50                  |  |
| 6,874.0               | 4.30            | 68.70       | 6,841.3               | 37.1         | 597.0        | -12.6                   | 0.07                    | -0.05                  | -0.54                 |  |
| 7,062.0               | 4.90            | 65.20       | 7,028.7               | 43.1         | 610.8        | -7.9                    | 0.35                    | 0.32                   | -1.86                 |  |
| 7,249.0               | 4.80            | 67.60       | 7,215.0               | 49.4         | 625.3        | -2.8                    | 0.12                    | -0.05                  | 1.28                  |  |
| 7,439.0               | 5.20            | 70.30       | 7,404.3               | 55.3         | 640.8        | 1.9                     | 0.24                    | 0.21                   | 1.42                  |  |
| 7,629.0               | 4.80            | 72.90       | 7,593.6               | 60.6         | 656.5        | 5.8                     | 0.24                    | -0.21                  | 1.37                  |  |
| 7,819.0               | 4.00            | 74.50       | 7,783.0               | 64.7         | 670.5        | 8.7                     | 0.43                    | -0.42                  | 0.84                  |  |
| 8,009.0               | 3.90            | 72.00       | 7,972.6               | 68.4         | 683.0        | 11.4                    | 0.10                    | -0.05                  | -1.32                 |  |
| 8,199.0               | 3.30            | 81.00       | 8,162.2               | 71.3         | 694.5        | 13.3                    | 0.43                    | -0.32                  | 4.74                  |  |
| 8,389.0               | 4.70            | 67.80       | 8,351.7               | 75.1         | 707.2        | 16.0                    | 0.88                    | 0.74                   | -6.95                 |  |
| 8,579.0               | 5.10            | 72.60       | 8,541.0               | 80.6         | 722.4        | 20.2                    | 0.30                    | 0.21                   | 2.53                  |  |
| 8,769.0               | 5.40            | 74.30       | 8,730.2               | 85.5         | 739.1        | 23.7                    | 0.18                    | 0.16                   | 0.89                  |  |
| 8,959.0               | 3.70            | 66.60       | 8,919.6               | 90.4         | 753.3        | 27.4                    | 0.95                    | -0.89                  | -4.05                 |  |

|                  |  |                                     |                                    |
|------------------|--|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Mewbourne Oil Company                    | <b>Local Co-ordinate Reference:</b> | Well University B21 5 #W101PA      |
| <b>Project:</b>  | Winkler County, Tx                       | <b>TVD Reference:</b>               | WELL @ 2883.0usft (Patterson #243) |
| <b>Site:</b>     | Sec 5, Blk 21 Publick School Land Survey | <b>MD Reference:</b>                | WELL @ 2883.0usft (Patterson #243) |
| <b>Well:</b>     | University B21 5 #W101PA                 | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                              | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Wellbore #1                              | <b>Database:</b>                    | EDM 5000.1 Single User Db          |

| Survey  |                 |             |                       |             |             |                         |                         |                        |                       |  |
|---|-----------------|-------------|-----------------------|-------------|-------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft)                               | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N-S (usft) | +E-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |  |
| 9,048.0   | 2.90            | 67.40       | 9,008.5               | 92.4        | 758.0       | 29.0                    | 0.90                    | -0.90                  | 0.90                  |  |
| 9,241.0   | 2.00            | 68.00       | 9,201.3               | 95.5        | 765.7       | 31.5                    | 0.47                    | -0.47                  | 0.31                  |  |
| 9,428.0   | 1.90            | 67.60       | 9,388.2               | 97.9        | 771.6       | 33.4                    | 0.05                    | -0.05                  | -0.21                 |  |
| 9,616.0   | 0.70            | 92.60       | 9,576.1               | 99.0        | 775.6       | 34.2                    | 0.69                    | -0.64                  | 13.30                 |  |
| 9,804.0   | 0.70            | 108.90      | 9,764.1               | 98.6        | 777.8       | 33.6                    | 0.11                    | 0.00                   | 8.67                  |  |
| 9,992.0   | 3.40            | 89.80       | 9,952.0               | 98.3        | 784.5       | 32.7                    | 1.46                    | 1.44                   | -10.16                |  |
| 10,180.0  | 4.30            | 79.10       | 10,139.6              | 99.6        | 797.0       | 33.0                    | 0.61                    | 0.48                   | -5.69                 |  |
| 10,367.0  | 6.00            | 86.80       | 10,325.8              | 101.5       | 813.6       | 33.5                    | 0.98                    | 0.91                   | 4.12                  |  |
| 10,555.0  | 7.20            | 85.70       | 10,512.6              | 102.9       | 835.2       | 33.1                    | 0.64                    | 0.64                   | -0.59                 |  |
| 10,743.0  | 7.20            | 80.50       | 10,699.1              | 105.7       | 858.5       | 34.0                    | 0.35                    | 0.00                   | -2.77                 |  |
| 10,931.0  | 6.80            | 85.00       | 10,885.7              | 108.7       | 881.3       | 35.0                    | 0.36                    | -0.21                  | 2.39                  |  |
| 11,118.0  | 5.10            | 93.80       | 11,071.7              | 109.1       | 900.6       | 33.8                    | 1.03                    | -0.91                  | 4.71                  |  |
| 11,305.0  | 3.60            | 112.10      | 11,258.1              | 106.3       | 914.3       | 29.9                    | 1.08                    | -0.80                  | 9.79                  |  |
| 11,493.0  | 2.50            | 130.00      | 11,445.9              | 101.5       | 922.9       | 24.4                    | 0.77                    | -0.59                  | 9.52                  |  |
| 11,550.0  | 2.50            | 131.80      | 11,502.8              | 99.8        | 924.8       | 22.6                    | 0.14                    | 0.00                   | 3.16                  |  |
| 11,581.0  | 2.50            | 98.00       | 11,533.8              | 99.3        | 926.0       | 21.9                    | 4.69                    | 0.00                   | -109.03               |  |
| 11,613.0  | 2.70            | 35.50       | 11,565.8              | 99.8        | 927.1       | 22.4                    | 8.44                    | 0.63                   | -195.31               |  |
| 11,644.0  | 5.90            | 358.50      | 11,596.7              | 102.0       | 927.5       | 24.5                    | 13.16                   | 10.32                  | -119.35               |  |
| 11,675.0  | 10.50           | 350.50      | 11,627.4              | 106.4       | 927.0       | 28.9                    | 15.25                   | 14.84                  | -25.81                |  |
| 11,706.0  | 13.80           | 352.70      | 11,657.7              | 112.8       | 926.0       | 35.4                    | 10.75                   | 10.65                  | 7.10                  |  |
| 11,737.0  | 17.10           | 350.80      | 11,687.5              | 121.0       | 924.8       | 43.7                    | 10.77                   | 10.65                  | -6.13                 |  |
| 11,769.0  | 20.90           | 348.40      | 11,717.8              | 131.2       | 922.9       | 54.0                    | 12.12                   | 11.88                  | -7.50                 |  |
| 11,800.0  | 24.50           | 347.50      | 11,746.4              | 142.9       | 920.4       | 65.9                    | 11.67                   | 11.61                  | -2.90                 |  |
| 11,832.0  | 28.10           | 347.30      | 11,775.1              | 156.8       | 917.3       | 79.9                    | 11.25                   | 11.25                  | -0.63                 |  |
| 11,863.0  | 31.90           | 349.20      | 11,801.9              | 171.9       | 914.2       | 95.3                    | 12.63                   | 12.26                  | 6.13                  |  |
| 11,895.0  | 35.60           | 351.00      | 11,828.5              | 189.5       | 911.2       | 113.0                   | 11.98                   | 11.56                  | 5.63                  |  |
| 11,926.0  | 39.70           | 351.20      | 11,853.0              | 208.2       | 908.2       | 131.9                   | 13.23                   | 13.23                  | 0.65                  |  |
| 11,958.0  | 44.40           | 351.50      | 11,876.8              | 229.3       | 905.0       | 153.3                   | 14.70                   | 14.69                  | 0.94                  |  |
| 11,989.0  | 48.00           | 351.90      | 11,898.2              | 251.5       | 901.8       | 175.6                   | 11.65                   | 11.61                  | 1.29                  |  |
| 12,020.0  | 50.90           | 353.40      | 11,918.4              | 274.8       | 898.8       | 199.1                   | 10.05                   | 9.35                   | 4.84                  |  |
| <b>200' HL Crossed @ 12030.9' MD / 11925.2' TVD</b> |                 |             |                       |             |             |                         |                         |                        |                       |  |
| 12,030.9  | 52.50           | 353.61      | 11,925.2              | 283.3       | 897.8       | 207.7                   | 14.76                   | 14.68                  | 1.95                  |  |
| 12,052.0  | 55.60           | 354.00      | 11,937.5              | 300.3       | 896.0       | 224.8                   | 14.76                   | 14.69                  | 1.84                  |  |
| 12,080.0  | 58.70           | 354.10      | 11,952.7              | 323.7       | 893.5       | 248.3                   | 11.08                   | 11.07                  | 0.36                  |  |
| 12,168.0  | 68.50           | 354.90      | 11,991.8              | 402.1       | 886.0       | 327.0                   | 11.17                   | 11.14                  | 0.91                  |  |
| 12,200.0  | 70.20           | 355.20      | 12,003.1              | 431.9       | 883.4       | 356.9                   | 5.38                    | 5.31                   | 0.94                  |  |
| 12,231.0  | 70.10           | 355.40      | 12,013.6              | 461.0       | 881.0       | 386.1                   | 0.69                    | -0.32                  | 0.65                  |  |
| 12,262.0  | 71.00           | 355.00      | 12,023.9              | 490.1       | 878.6       | 415.3                   | 3.15                    | 2.90                   | -1.29                 |  |
| 12,294.0  | 72.30           | 354.50      | 12,034.0              | 520.3       | 875.8       | 445.7                   | 4.32                    | 4.06                   | -1.56                 |  |
| 12,326.0  | 74.00           | 354.00      | 12,043.3              | 550.8       | 872.7       | 476.3                   | 5.52                    | 5.31                   | -1.56                 |  |
| 12,357.0  | 75.40           | 354.10      | 12,051.5              | 580.5       | 869.6       | 506.2                   | 4.53                    | 4.52                   | 0.32                  |  |
| 12,388.0  | 76.80           | 354.70      | 12,058.9              | 610.5       | 866.7       | 536.3                   | 4.89                    | 4.52                   | 1.94                  |  |
| 12,419.0  | 77.10           | 354.90      | 12,065.9              | 640.6       | 864.0       | 566.5                   | 1.15                    | 0.97                   | 0.65                  |  |
| 12,450.0  | 77.20           | 354.70      | 12,072.8              | 670.7       | 861.2       | 596.7                   | 0.71                    | 0.32                   | -0.65                 |  |

|                  |  |                                     |                                    |
|------------------|--|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Mewbourne Oil Company                    | <b>Local Co-ordinate Reference:</b> | Well University B21 5 #W101PA      |
| <b>Project:</b>  | Winkler County, Tx                       | <b>TVD Reference:</b>               | WELL @ 2883.0usft (Patterson #243) |
| <b>Site:</b>     | Sec 5, Blk 21 Publick School Land Survey | <b>MD Reference:</b>                | WELL @ 2883.0usft (Patterson #243) |
| <b>Well:</b>     | University B21 5 #W101PA                 | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                              | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Wellbore #1                              | <b>Database:</b>                    | EDM 5000.1 Single User Db          |

| Survey                |                 |             |                       |              |              |                         |                         |                        |                       |  |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |  |
| 12,482.0              | 77.50           | 354.90      | 12,079.8              | 701.8        | 858.4        | 628.0                   | 1.12                    | 0.94                   | 0.63                  |  |
| 12,513.0              | 77.50           | 355.20      | 12,086.5              | 731.9        | 855.8        | 658.2                   | 0.94                    | 0.00                   | 0.97                  |  |
| 12,545.0              | 76.60           | 355.50      | 12,093.7              | 763.0        | 853.3        | 689.4                   | 2.96                    | -2.81                  | 0.94                  |  |
| 12,576.0              | 76.70           | 355.50      | 12,100.9              | 793.1        | 850.9        | 719.6                   | 0.32                    | 0.32                   | 0.00                  |  |
| 12,607.0              | 77.30           | 355.90      | 12,107.8              | 823.2        | 848.6        | 749.8                   | 2.31                    | 1.94                   | 1.29                  |  |
| 12,638.0              | 76.70           | 356.10      | 12,114.8              | 853.3        | 846.5        | 780.0                   | 2.04                    | -1.94                  | 0.65                  |  |
| 12,670.0              | 79.70           | 357.70      | 12,121.4              | 884.6        | 844.8        | 811.3                   | 10.58                   | 9.38                   | 5.00                  |  |
| 12,701.0              | 83.10           | 358.50      | 12,126.0              | 915.2        | 843.8        | 841.9                   | 11.26                   | 10.97                  | 2.58                  |  |
| 12,732.0              | 86.60           | 360.00      | 12,128.8              | 946.1        | 843.4        | 872.7                   | 12.28                   | 11.29                  | 4.84                  |  |
| 12,764.0              | 89.60           | 360.00      | 12,129.8              | 978.1        | 843.4        | 904.5                   | 9.38                    | 9.38                   | 0.00                  |  |
| 12,795.0              | 91.40           | 356.60      | 12,129.6              | 1,009.0      | 842.5        | 935.5                   | 12.41                   | 5.81                   | -10.97                |  |
| 12,826.0              | 92.90           | 352.90      | 12,128.4              | 1,039.9      | 839.7        | 966.5                   | 12.87                   | 4.84                   | -11.94                |  |
| 12,857.0              | 94.20           | 349.40      | 12,126.5              | 1,070.5      | 834.9        | 997.3                   | 12.02                   | 4.19                   | -11.29                |  |
| 12,888.0              | 94.20           | 348.50      | 12,124.2              | 1,100.8      | 829.0        | 1,028.1                 | 2.90                    | 0.00                   | -2.90                 |  |
| 12,919.0              | 93.90           | 345.40      | 12,122.0              | 1,130.9      | 822.0        | 1,058.6                 | 10.02                   | -0.97                  | -10.00                |  |
| 12,950.0              | 92.80           | 343.80      | 12,120.2              | 1,160.8      | 813.8        | 1,089.1                 | 6.26                    | -3.55                  | -5.16                 |  |
| 13,043.0              | 90.90           | 338.90      | 12,117.2              | 1,248.8      | 784.1        | 1,179.3                 | 5.65                    | -2.04                  | -5.27                 |  |
| 13,137.0              | 88.60           | 337.30      | 12,117.6              | 1,336.0      | 749.0        | 1,269.1                 | 2.98                    | -2.45                  | -1.70                 |  |
| 13,230.0              | 87.10           | 338.90      | 12,121.1              | 1,422.2      | 714.3        | 1,357.9                 | 2.36                    | -1.61                  | 1.72                  |  |
| 13,325.0              | 87.30           | 341.30      | 12,125.7              | 1,511.4      | 682.0        | 1,449.5                 | 2.53                    | 0.21                   | 2.53                  |  |
| 13,419.0              | 92.00           | 342.50      | 12,126.3              | 1,600.8      | 652.9        | 1,540.9                 | 5.16                    | 5.00                   | 1.28                  |  |
| 13,512.0              | 93.90           | 342.50      | 12,121.5              | 1,689.3      | 624.9        | 1,631.5                 | 2.04                    | 2.04                   | 0.00                  |  |
| 13,606.0              | 89.80           | 340.30      | 12,118.5              | 1,778.3      | 595.0        | 1,722.7                 | 4.95                    | -4.36                  | -2.34                 |  |
| 13,699.0              | 88.90           | 340.80      | 12,119.5              | 1,866.0      | 564.0        | 1,812.7                 | 1.11                    | -0.97                  | 0.54                  |  |
| 13,793.0              | 88.90           | 341.70      | 12,121.4              | 1,955.0      | 533.8        | 1,903.9                 | 0.96                    | 0.00                   | 0.96                  |  |
| 13,886.0              | 91.00           | 344.00      | 12,121.4              | 2,043.9      | 506.4        | 1,994.7                 | 3.35                    | 2.26                   | 2.47                  |  |
| 13,979.0              | 91.50           | 345.90      | 12,119.4              | 2,133.7      | 482.2        | 2,086.2                 | 2.11                    | 0.54                   | 2.04                  |  |
| 14,073.0              | 90.10           | 345.20      | 12,118.1              | 2,224.7      | 458.8        | 2,178.8                 | 1.67                    | -1.49                  | -0.74                 |  |
| 14,166.0              | 89.40           | 344.00      | 12,118.5              | 2,314.3      | 434.1        | 2,270.2                 | 1.49                    | -0.75                  | -1.29                 |  |
| 14,260.0              | 91.70           | 343.10      | 12,117.6              | 2,404.5      | 407.5        | 2,362.3                 | 2.63                    | 2.45                   | -0.96                 |  |
| 14,353.0              | 88.20           | 341.10      | 12,117.7              | 2,493.0      | 378.9        | 2,452.8                 | 4.33                    | -3.76                  | -2.15                 |  |
| 14,447.0              | 87.10           | 341.50      | 12,121.5              | 2,581.9      | 348.8        | 2,544.0                 | 1.25                    | -1.17                  | 0.43                  |  |
| 14,541.0              | 91.50           | 341.30      | 12,122.7              | 2,671.0      | 318.8        | 2,635.2                 | 4.69                    | 4.68                   | -0.21                 |  |
| 14,635.0              | 89.50           | 341.30      | 12,121.9              | 2,760.0      | 288.7        | 2,726.5                 | 2.13                    | -2.13                  | 0.00                  |  |
| 14,729.0              | 87.80           | 338.90      | 12,124.1              | 2,848.4      | 256.7        | 2,817.2                 | 3.13                    | -1.81                  | -2.55                 |  |
| 14,823.0              | 90.00           | 341.00      | 12,125.9              | 2,936.6      | 224.5        | 2,907.8                 | 3.24                    | 2.34                   | 2.23                  |  |
| 14,917.0              | 91.70           | 342.20      | 12,124.5              | 3,025.8      | 194.8        | 2,999.1                 | 2.21                    | 1.81                   | 1.28                  |  |
| 15,010.0              | 91.40           | 342.90      | 12,122.0              | 3,114.5      | 166.9        | 3,089.8                 | 0.82                    | -0.32                  | 0.75                  |  |
| 15,104.0              | 89.60           | 341.70      | 12,121.1              | 3,204.1      | 138.3        | 3,181.5                 | 2.30                    | -1.91                  | -1.28                 |  |
| 15,198.0              | 87.70           | 341.00      | 12,123.4              | 3,293.1      | 108.3        | 3,272.7                 | 2.15                    | -2.02                  | -0.74                 |  |
| 15,291.0              | 90.40           | 343.60      | 12,124.9              | 3,381.7      | 80.0         | 3,363.3                 | 4.03                    | 2.90                   | 2.80                  |  |
| 15,385.0              | 88.70           | 342.50      | 12,125.6              | 3,471.6      | 52.6         | 3,455.2                 | 2.15                    | -1.81                  | -1.17                 |  |
| 15,479.0              | 88.60           | 342.40      | 12,127.9              | 3,561.2      | 24.3         | 3,546.8                 | 0.15                    | -0.11                  | -0.11                 |  |

|                  |  |                                     |                                    |
|------------------|--|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Mewbourne Oil Company                    | <b>Local Co-ordinate Reference:</b> | Well University B21 5 #W101PA      |
| <b>Project:</b>  | Winkler County, Tx                       | <b>TVD Reference:</b>               | WELL @ 2883.0usft (Patterson #243) |
| <b>Site:</b>     | Sec 5, Blk 21 Publick School Land Survey | <b>MD Reference:</b>                | WELL @ 2883.0usft (Patterson #243) |
| <b>Well:</b>     | University B21 5 #W101PA                 | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                              | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Wellbore #1                              | <b>Database:</b>                    | EDM 5000.1 Single User Db          |

| Survey                                 |                 |             |                       |              |              |                         |                         |                        |                       |  |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft)                  | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |  |
| 15,573.0                               | 88.60           | 343.60      | 12,130.2              | 3,651.0      | -3.2         | 3,638.6                 | 1.28                    | 0.00                   | 1.28                  |  |
| 15,667.0                               | 90.80           | 345.90      | 12,130.6              | 3,741.7      | -27.9        | 3,731.1                 | 3.39                    | 2.34                   | 2.45                  |  |
| 15,761.0                               | 91.30           | 345.50      | 12,128.9              | 3,832.8      | -51.1        | 3,823.8                 | 0.68                    | 0.53                   | -0.43                 |  |
| 15,855.0                               | 89.30           | 344.70      | 12,128.4              | 3,923.6      | -75.3        | 3,916.3                 | 2.29                    | -2.13                  | -0.85                 |  |
| 15,949.0                               | 87.30           | 342.70      | 12,131.2              | 4,013.8      | -101.7       | 4,008.3                 | 3.01                    | -2.13                  | -2.13                 |  |
| 16,043.0                               | 87.80           | 342.90      | 12,135.2              | 4,103.5      | -129.4       | 4,100.0                 | 0.57                    | 0.53                   | 0.21                  |  |
| 16,137.0                               | 88.50           | 344.50      | 12,138.3              | 4,193.7      | -155.8       | 4,192.1                 | 1.86                    | 0.74                   | 1.70                  |  |
| 16,230.0                               | 90.00           | 345.00      | 12,139.5              | 4,283.4      | -180.3       | 4,283.5                 | 1.70                    | 1.61                   | 0.54                  |  |
| 16,324.0                               | 88.90           | 343.10      | 12,140.4              | 4,373.8      | -206.1       | 4,375.7                 | 2.34                    | -1.17                  | -2.02                 |  |
| 16,418.0                               | 90.80           | 344.00      | 12,140.6              | 4,463.9      | -232.7       | 4,467.8                 | 2.24                    | 2.02                   | 0.96                  |  |
| 16,510.0                               | 90.60           | 343.40      | 12,139.5              | 4,552.2      | -258.5       | 4,557.9                 | 0.69                    | -0.22                  | -0.65                 |  |
| 16,605.0                               | 89.60           | 342.70      | 12,139.3              | 4,643.1      | -286.2       | 4,650.8                 | 1.28                    | -1.05                  | -0.74                 |  |
| 16,699.0                               | 89.90           | 343.30      | 12,139.8              | 4,733.0      | -313.7       | 4,742.7                 | 0.71                    | 0.32                   | 0.64                  |  |
| 16,792.0                               | 87.10           | 341.80      | 12,142.2              | 4,821.6      | -341.6       | 4,833.3                 | 3.42                    | -3.01                  | -1.61                 |  |
| 16,886.0                               | 87.50           | 342.40      | 12,146.6              | 4,911.0      | -370.4       | 4,924.8                 | 0.77                    | 0.43                   | 0.64                  |  |
| 16,915.0                               | 87.50           | 342.40      | 12,147.9              | 4,938.6      | -379.2       | 4,953.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| <b>TD @ 16970.0' MD / 12150.3' TVD</b> |                 |             |                       |              |              |                         |                         |                        |                       |  |
| 16,970.0                               | 87.50           | 342.40      | 12,150.3              | 4,991.0      | -395.8       | 5,006.6                 | 0.00                    | 0.00                   | 0.00                  |  |

| Design Annotations    |                       |                   |              |  |  |
|-----------------------|-----------------------|-------------------|--------------|--|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment                                      |  |
|                       |                       | +N/-S (usft)      | +E/-W (usft) |  |  |
| 336.0                 | 336.0                 | 0.9               | -1.4         | Phoenix Tie-In @ 336.0' MD / 336.0' TVD      |  |
| 12,030.9              | 11,925.2              | 283.3             | 897.8        | 200' HL Crossed @ 12030.9' MD / 11925.2' TVD |  |
| 16,970.0              | 12,150.3              | 4,991.0           | -395.8       | TD @ 16970.0' MD / 12150.3' TVD              |  |

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