



HOBBS OCD  
APR 25 2019  
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7821 Will Rogers Blvd.  
Fort Worth, Texas 76140  
817.568.1038 (office)  
817.568.1499 (fax)  
www.msdir.com

MS Directional Survey Data Certification

MS Directional Job Number: MSMO-57972  
Survey Type: MWD  
Operating Company: Kaiser-Francis Oil Company  
Well Name & Number: ~~Red Lake Unit North 30011~~  
Location: Lea County, NM  
API Number: 30-025-44691  
Tie In Depth: 12,242' MD  
Surveyed Depths: 12,282' – 19,757' MD  
Projected TD Survey: 19,824' MD  
Dates Performed: 11/22/2018 – 11/29/2018

I certify that the data is true, correct and complete and within the limitations of the tool set forth by MS Directional; that I am authorized and qualified to make this report and that I have reviewed this report and find it conforms to the principles and procedures as set forth by MS Directional.

Digitally signed by:

MWD Surveyor Name: Dereck Scott

Date: 12-21-2018

Email: dscott@msdir.com

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V09.04.02

|             |                            |  |                       |      |                          |
|-------------|----------------------------|--|-----------------------|------|--------------------------|
| Company:    | Kaiser-Francis Oil Company |  |                       |      |                          |
| Well Name:  | Bell Lake Unit North 301H  |  |                       |      |                          |
| Location:   | Lea County, NM             |  |                       |      |                          |
| Rig:        | Cactus #171                |  | Magnetic Declination: | 6.43 | REFERENCED TO GRID NORTH |
| Job Number: | MSMO-57972                 |  |                       |      |                          |
| API #:      | 30-025-44691               |  |                       |      |                          |

|                           |        |                     |        |
|---------------------------|--------|---------------------|--------|
| Vertical Section Azimuth: | 179.58 | Proposed Direction: | 179.58 |
|---------------------------|--------|---------------------|--------|

|                            |                   |
|----------------------------|-------------------|
| Survey Calculation Method: | Minimum Curvature |
|----------------------------|-------------------|

| PTB: | MD     | INC  | AZM   | TVD      | N/S      | E/W    | VS      |
|------|--------|------|-------|----------|----------|--------|---------|
|      | 19,824 | 89.4 | 175.6 | 12041.96 | -8333.71 | 587.16 | 8337.79 |

| #      | Depth<br>Feet | Inc<br>Degrees | Azm<br>Degrees | TVD<br>Feet | N/S<br>Feet | E/W<br>Feet | Surface<br>Vert Sec | Closure<br>Distance | Azm    | DLS/<br>100 | BUR/<br>100' |
|--------|---------------|----------------|----------------|-------------|-------------|-------------|---------------------|---------------------|--------|-------------|--------------|
| TIE IN | 12,242        | 82.08          | 175.80         | 11764.53    | -765.49     | 515.16      |                     | 922.69              | 146.06 |             |              |
| 1      | 12,282        | 85.50          | 179.00         | 11768.86    | -805.20     | 516.96      | 808.97              | 956.87              | 147.30 | 11.68       | 8.55         |
| 2      | 12,329        | 86.60          | 180.10         | 11772.10    | -852.09     | 517.33      | 855.86              | 996.84              | 148.74 | 3.31        | 2.34         |
| 3      | 12,424        | 87.00          | 181.10         | 11777.40    | -946.93     | 516.33      | 950.69              | 1078.56             | 151.40 | 1.13        | 0.42         |
| 4      | 12,519        | 87.30          | 180.80         | 11782.12    | -1041.80    | 514.76      | 1045.55             | 1162.04             | 153.71 | 0.45        | 0.32         |
| 5      | 12,613        | 87.40          | 180.30         | 11786.47    | -1135.70    | 513.86      | 1139.43             | 1246.54             | 155.66 | 0.54        | 0.11         |
| 6      | 12,708        | 87.70          | 180.90         | 11790.53    | -1230.61    | 512.87      | 1234.33             | 1333.20             | 157.38 | 0.71        | 0.32         |
| 7      | 12,802        | 87.70          | 181.10         | 11794.30    | -1324.52    | 511.23      | 1328.23             | 1419.75             | 158.89 | 0.21        | 0.00         |
| 8      | 12,896        | 89.00          | 181.90         | 11797.01    | -1418.44    | 508.77      | 1422.13             | 1506.92             | 160.27 | 1.62        | 1.38         |
| 9      | 12,991        | 88.50          | 181.20         | 11799.08    | -1513.38    | 506.20      | 1517.05             | 1595.80             | 161.51 | 0.91        | -0.53        |
| 10     | 13,085        | 88.70          | 181.00         | 11801.38    | -1607.34    | 504.39      | 1610.99             | 1684.62             | 162.58 | 0.30        | 0.21         |
| 11     | 13,180        | 89.10          | 180.30         | 11803.20    | -1702.31    | 503.32      | 1705.96             | 1775.16             | 163.53 | 0.85        | 0.42         |
| 12     | 13,275        | 88.30          | 179.70         | 11805.36    | -1797.29    | 503.32      | 1800.93             | 1866.43             | 164.36 | 1.05        | -0.84        |
| 13     | 13,370        | 86.90          | 179.30         | 11809.33    | -1892.20    | 504.14      | 1895.84             | 1958.21             | 165.08 | 1.53        | -1.47        |
| 14     | 13,465        | 84.40          | 178.30         | 11816.54    | -1986.90    | 506.13      | 1990.55             | 2050.35             | 165.71 | 2.83        | -2.63        |
| 15     | 13,559        | 84.30          | 178.50         | 11825.79    | -2080.40    | 508.74      | 2084.08             | 2141.70             | 166.26 | 0.24        | -0.11        |
| 16     | 13,653        | 89.40          | 181.20         | 11830.96    | -2174.22    | 508.98      | 2177.89             | 2233.00             | 166.82 | 6.14        | 5.43         |
| 17     | 13,748        | 89.80          | 181.60         | 11831.62    | -2269.19    | 506.66      | 2272.84             | 2325.06             | 167.41 | 0.60        | 0.42         |
| 18     | 13,843        | 89.70          | 181.00         | 11832.04    | -2364.16    | 504.50      | 2367.80             | 2417.39             | 167.95 | 0.64        | -0.11        |
| 19     | 13,938        | 89.20          | 180.00         | 11832.95    | -2459.15    | 503.67      | 2462.78             | 2510.20             | 168.43 | 1.18        | -0.53        |
| 20     | 14,032        | 89.40          | 179.50         | 11834.10    | -2553.15    | 504.08      | 2556.77             | 2602.43             | 168.83 | 0.57        | 0.21         |
| 21     | 14,127        | 88.40          | 178.90         | 11835.92    | -2648.12    | 505.41      | 2651.75             | 2695.92             | 169.19 | 1.23        | -1.05        |
| 22     | 14,222        | 90.00          | 177.70         | 11837.25    | -2743.06    | 508.23      | 2746.71             | 2789.75             | 169.50 | 2.11        | 1.68         |
| 23     | 14,316        | 87.70          | 177.80         | 11839.13    | -2836.96    | 511.92      | 2840.64             | 2882.78             | 169.77 | 2.45        | -2.45        |
| 24     | 14,410        | 85.00          | 180.20         | 11845.12    | -2930.74    | 513.56      | 2934.43             | 2975.40             | 170.06 | 3.84        | -2.87        |
| 25     | 14,504        | 85.30          | 180.70         | 11853.07    | -3024.40    | 512.82      | 3028.08             | 3067.57             | 170.38 | 0.62        | 0.32         |
| 26     | 14,599        | 84.40          | 179.40         | 11861.59    | -3119.02    | 512.74      | 3122.69             | 3160.88             | 170.66 | 1.66        | -0.95        |
| 27     | 14,693        | 84.00          | 178.50         | 11871.09    | -3212.52    | 514.45      | 3216.20             | 3253.45             | 170.90 | 1.04        | -0.43        |
| 28     | 14,787        | 83.70          | 177.60         | 11881.16    | -3305.92    | 517.63      | 3309.63             | 3346.20             | 171.10 | 1.00        | -0.32        |
| 29     | 14,881        | 84.50          | 178.00         | 11890.83    | -3399.35    | 521.22      | 3403.08             | 3439.08             | 171.28 | 0.95        | 0.85         |
| 30     | 14,976        | 84.80          | 177.10         | 11899.68    | -3493.85    | 525.26      | 3497.61             | 3533.12             | 171.45 | 0.99        | 0.32         |
| 31     | 15,071        | 85.20          | 179.30         | 11907.96    | -3588.44    | 528.24      | 3592.21             | 3627.11             | 171.63 | 2.35        | 0.42         |
| 32     | 15,166        | 85.00          | 180.30         | 11916.08    | -3683.09    | 528.57      | 3686.86             | 3720.82             | 171.83 | 1.07        | -0.21        |
| 33     | 15,261        | 84.70          | 179.80         | 11924.61    | -3777.71    | 528.48      | 3781.48             | 3814.49             | 172.04 | 0.61        | -0.32        |

V09.04.02

|             |                            |
|-------------|----------------------------|
| Company:    | Kaiser-Francis Oil Company |
| Well Name:  | Bell Lake Unit North 301H  |
| Location:   | Lea County, NM             |
| Rlg:        | Cactus #171                |
| Job Number: | MSMO-57972                 |
| API #:      | 30-025-44691               |

Magnetic Declination: 6.43 REFERENCED TO GRID NORTH

Vertical Section Azimuth: 179.58 Proposed Direction: 179.58

Survey Calculation Method: Minimum Curvature

| PTB: | MD     | INC  | AZM   | TVD      | N/S      | E/W    | VS      |
|------|--------|------|-------|----------|----------|--------|---------|
|      | 19,824 | 89.4 | 175.6 | 12041.96 | -8333.71 | 587.16 | 8337.79 |

| #  | Depth<br>Feet | Inc<br>Degrees | Azm<br>Degrees | TVD<br>Feet | N/S<br>Feet | E/W<br>Feet | Surface<br>Vert Sec | Closure<br>Distance | Azm    | DLS/<br>100 | BUR/<br>100' |
|----|---------------|----------------|----------------|-------------|-------------|-------------|---------------------|---------------------|--------|-------------|--------------|
| 34 | 15,355        | 84.10          | 178.80         | 11933.78    | -3871.25    | 529.63      | 3875.03             | 3907.31             | 172.21 | 1.24        | -0.64        |
| 35 | 15,450        | 84.10          | 178.30         | 11943.54    | -3965.71    | 532.02      | 3969.51             | 4001.24             | 172.36 | 0.52        | 0.00         |
| 36 | 15,544        | 85.80          | 180.40         | 11951.82    | -4059.33    | 533.08      | 4063.13             | 4094.19             | 172.52 | 2.87        | 1.81         |
| 37 | 15,638        | 85.90          | 180.50         | 11958.62    | -4153.09    | 532.34      | 4156.88             | 4187.06             | 172.70 | 0.15        | 0.11         |
| 38 | 15,733        | 84.30          | 179.30         | 11966.74    | -4247.73    | 532.50      | 4251.52             | 4280.98             | 172.85 | 2.10        | -1.68        |
| 39 | 15,827        | 85.50          | 179.90         | 11975.09    | -4341.36    | 533.16      | 4345.15             | 4373.97             | 173.00 | 1.43        | 1.28         |
| 40 | 15,921        | 85.20          | 180.60         | 11982.71    | -4435.05    | 532.75      | 4438.83             | 4466.93             | 173.15 | 0.81        | -0.32        |
| 41 | 16,015        | 83.60          | 179.00         | 11991.89    | -4528.59    | 533.07      | 4532.38             | 4559.86             | 173.29 | 2.40        | -1.70        |
| 42 | 16,110        | 83.70          | 178.70         | 12002.39    | -4622.99    | 534.97      | 4626.79             | 4653.84             | 173.40 | 0.33        | 0.11         |
| 43 | 16,204        | 84.30          | 179.00         | 12012.22    | -4716.45    | 536.85      | 4720.26             | 4746.91             | 173.51 | 0.71        | 0.64         |
| 44 | 16,299        | 86.00          | 180.30         | 12020.25    | -4811.11    | 537.42      | 4814.92             | 4841.03             | 173.63 | 2.25        | 1.79         |
| 45 | 16,393        | 88.00          | 179.70         | 12025.17    | -4904.97    | 537.42      | 4908.78             | 4934.33             | 173.75 | 2.22        | 2.13         |
| 46 | 16,488        | 89.90          | 180.30         | 12026.91    | -4999.95    | 537.42      | 5003.76             | 5028.75             | 173.87 | 2.10        | 2.00         |
| 47 | 16,582        | 89.80          | 179.70         | 12027.16    | -5093.95    | 537.42      | 5097.75             | 5122.22             | 173.98 | 0.65        | -0.11        |
| 48 | 16,677        | 88.60          | 179.00         | 12028.48    | -5188.93    | 538.50      | 5192.74             | 5216.80             | 174.08 | 1.46        | -1.26        |
| 49 | 16,772        | 88.40          | 179.60         | 12030.97    | -5283.89    | 539.66      | 5287.71             | 5311.38             | 174.17 | 0.67        | -0.21        |
| 50 | 16,866        | 88.50          | 179.80         | 12033.51    | -5377.86    | 540.15      | 5381.67             | 5404.92             | 174.26 | 0.24        | 0.11         |
| 51 | 16,961        | 87.80          | 179.00         | 12036.58    | -5472.80    | 541.15      | 5476.62             | 5499.49             | 174.35 | 1.12        | -0.74        |
| 52 | 17,055        | 87.90          | 178.80         | 12040.11    | -5566.72    | 542.95      | 5570.55             | 5593.13             | 174.43 | 0.24        | 0.11         |
| 53 | 17,149        | 89.40          | 180.50         | 12042.32    | -5660.68    | 543.52      | 5664.52             | 5686.72             | 174.52 | 2.41        | 1.60         |
| 54 | 17,243        | 89.20          | 180.70         | 12043.47    | -5754.67    | 542.54      | 5758.49             | 5780.19             | 174.61 | 0.30        | -0.21        |
| 55 | 17,338        | 88.60          | 180.00         | 12045.29    | -5849.65    | 541.96      | 5853.47             | 5874.70             | 174.71 | 0.97        | -0.63        |
| 56 | 17,432        | 88.30          | 179.20         | 12047.84    | -5943.61    | 542.61      | 5947.43             | 5968.33             | 174.78 | 0.91        | -0.32        |
| 57 | 17,527        | 88.50          | 180.00         | 12050.49    | -6038.57    | 543.28      | 6042.39             | 6062.96             | 174.86 | 0.87        | 0.21         |
| 58 | 17,622        | 88.00          | 179.70         | 12053.39    | -6133.53    | 543.53      | 6137.35             | 6157.56             | 174.94 | 0.61        | -0.53        |
| 59 | 17,716        | 88.20          | 179.70         | 12056.51    | -6227.48    | 544.02      | 6231.30             | 6251.19             | 175.01 | 0.21        | 0.21         |
| 60 | 17,811        | 90.90          | 180.00         | 12057.25    | -6322.46    | 544.27      | 6326.28             | 6345.85             | 175.08 | 2.86        | 2.84         |
| 61 | 17,905        | 91.60          | 179.00         | 12055.20    | -6416.44    | 545.09      | 6420.26             | 6439.55             | 175.14 | 1.30        | 0.74         |
| 62 | 18,000        | 91.10          | 178.30         | 12052.96    | -6511.38    | 547.32      | 6515.22             | 6534.34             | 175.20 | 0.91        | -0.53        |
| 63 | 18,094        | 90.90          | 178.30         | 12051.32    | -6605.33    | 550.11      | 6609.18             | 6628.19             | 175.24 | 0.21        | -0.21        |
| 64 | 18,188        | 91.60          | 180.20         | 12049.27    | -6699.29    | 551.34      | 6703.15             | 6721.94             | 175.30 | 2.15        | 0.74         |
| 65 | 18,283        | 91.10          | 180.40         | 12047.03    | -6794.26    | 550.85      | 6798.12             | 6816.56             | 175.36 | 0.57        | -0.53        |
| 66 | 18,377        | 90.40          | 179.60         | 12045.80    | -6888.25    | 550.85      | 6892.11             | 6910.24             | 175.43 | 1.13        | -0.74        |
| 67 | 18,471        | 90.60          | 178.90         | 12044.98    | -6982.24    | 552.08      | 6986.10             | 7004.03             | 175.48 | 0.77        | 0.21         |

V09.04.02

|             |                            |
|-------------|----------------------------|
| Company:    | Kaiser-Francis Oil Company |
| Well Name:  | Bell Lake Unit North 301H  |
| Location:   | Lea County, NM             |
| Rig:        | Cactus #171                |
| Job Number: | MSMO-57972                 |
| API #:      | 30-025-44691               |

Magnetic Declination: 6.43 REFERENCED TO GRID NORTH

|                           |        |                     |        |
|---------------------------|--------|---------------------|--------|
| Vertical Section Azimuth: | 179.58 | Proposed Direction: | 179.58 |
|---------------------------|--------|---------------------|--------|

Survey Calculation Method: Minimum Curvature

| PTB: | MD     | INC  | AZM   | TVD      | N/S      | E/W    | VS      |
|------|--------|------|-------|----------|----------|--------|---------|
|      | 19,824 | 89.4 | 175.6 | 12041.96 | -8333.71 | 587.16 | 8337.79 |

| #    | Depth<br>Feet | Inc<br>Degrees | Azm<br>Degrees | TVD<br>Feet | N/S<br>Feet | E/W<br>Feet | Surface<br>Vert Sec | Closure<br>Distance | Azm    | DLS/<br>100 | BUR/<br>100' |
|------|---------------|----------------|----------------|-------------|-------------|-------------|---------------------|---------------------|--------|-------------|--------------|
| 68   | 18,566        | 89.80          | 180.10         | 12044.65    | -7077.23    | 552.90      | 7081.10             | 7098.80             | 175.53 | 1.52        | -0.84        |
| 69   | 18,661        | 88.40          | 180.30         | 12046.14    | -7172.22    | 552.57      | 7176.08             | 7193.47             | 175.59 | 1.49        | -1.47        |
| 70   | 18,755        | 90.40          | 181.00         | 12047.13    | -7266.20    | 551.51      | 7270.05             | 7287.10             | 175.66 | 2.25        | 2.13         |
| 71   | 18,850        | 91.80          | 181.20         | 12045.31    | -7361.17    | 549.68      | 7365.00             | 7381.66             | 175.73 | 1.49        | 1.47         |
| 72   | 18,945        | 91.30          | 180.70         | 12042.74    | -7456.12    | 548.11      | 7459.93             | 7476.24             | 175.80 | 0.74        | -0.53        |
| 73   | 19,039        | 91.30          | 180.30         | 12040.60    | -7550.09    | 547.29      | 7553.90             | 7569.90             | 175.85 | 0.43        | 0.00         |
| 74   | 19,134        | 90.90          | 179.50         | 12038.78    | -7645.07    | 547.45      | 7648.88             | 7664.65             | 175.90 | 0.94        | -0.42        |
| 75   | 19,229        | 90.50          | 178.70         | 12037.62    | -7740.05    | 548.95      | 7743.87             | 7759.49             | 175.94 | 0.94        | -0.42        |
| 76   | 19,323        | 89.10          | 177.30         | 12037.95    | -7833.99    | 552.23      | 7837.83             | 7853.43             | 175.97 | 2.11        | -1.49        |
| 77   | 19,417        | 89.20          | 177.00         | 12039.34    | -7927.86    | 556.90      | 7931.73             | 7947.40             | 175.98 | 0.34        | 0.11         |
| 78   | 19,512        | 89.50          | 176.00         | 12040.42    | -8022.68    | 562.70      | 8026.59             | 8042.39             | 175.99 | 1.10        | 0.32         |
| 79   | 19,607        | 90.00          | 175.40         | 12040.83    | -8117.41    | 569.82      | 8121.37             | 8137.38             | 175.98 | 0.82        | 0.53         |
| 80   | 19,701        | 89.90          | 175.20         | 12040.92    | -8211.09    | 577.52      | 8215.10             | 8231.38             | 175.98 | 0.24        | -0.11        |
| 81   | 19,757        | 89.40          | 175.60         | 12041.26    | -8266.91    | 582.02      | 8270.95             | 8287.37             | 175.97 | 1.14        | -0.89        |
| PTB: | 19,824        | 89.40          | 175.60         | 12041.96    | -8333.71    | 587.16      | 8337.79             | 8354.37             | 175.97 | 0.00        | 0.00         |