



# Cimarex

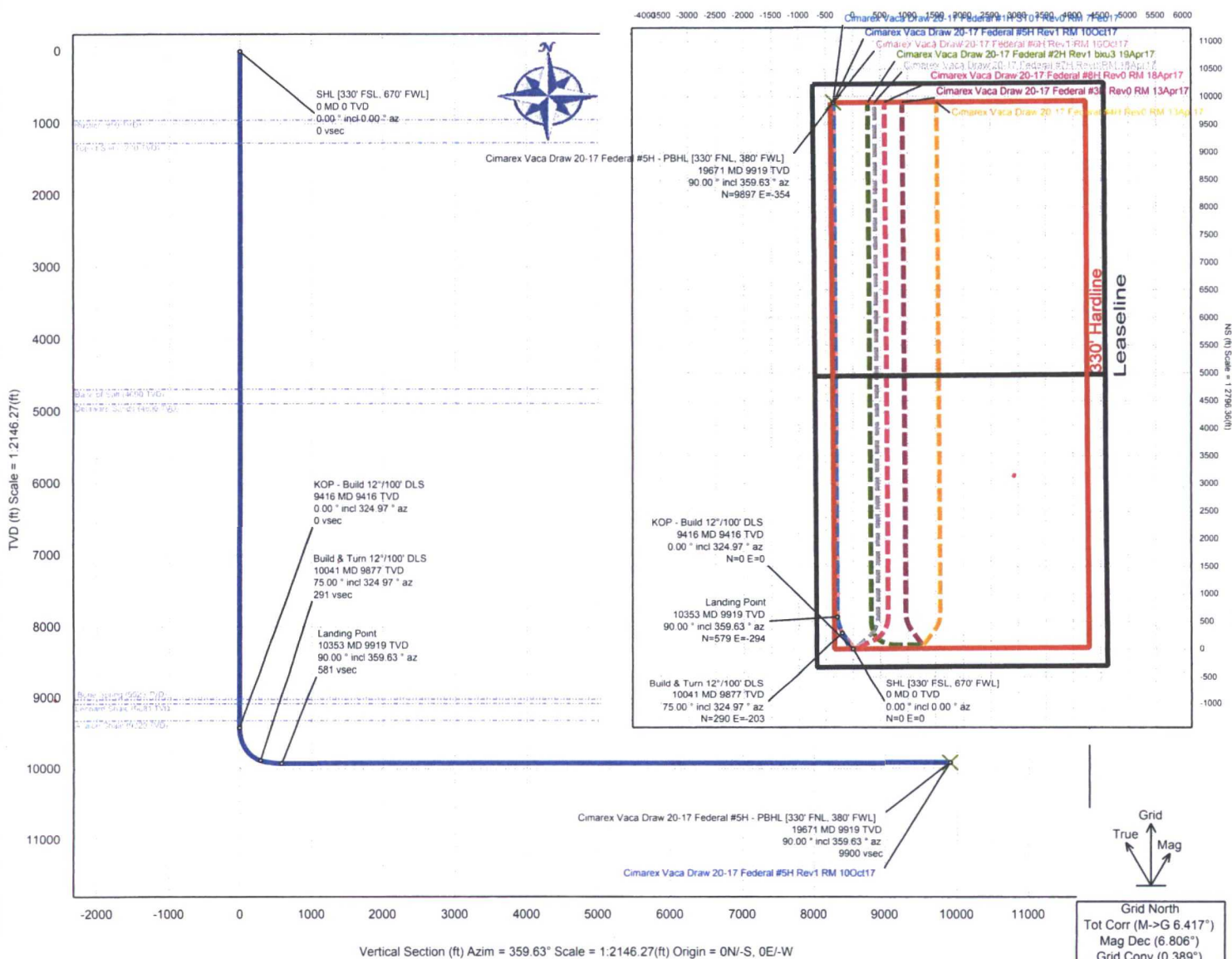
# Rev 1



| Borehole:         | Well:                               | Field:                 | Structure:                          |
|-------------------|-------------------------------------|------------------------|-------------------------------------|
| Original Borehole | Cimarex Vaca Draw 20-17 Federal #5H | NM Lea County (NAD 83) | Cimarex Vaca Draw 20-17 Federal #5H |

| Gravity & Magnetic Parameters |           |      |             | Surface Location |                             |      |               | Miscellaneous                                       |              |             |            |
|-------------------------------|-----------|------|-------------|------------------|-----------------------------|------|---------------|-----------------------------------------------------|--------------|-------------|------------|
| Model:                        | HDGM 2016 | Dip: | 59.83°      | Date:            | 10-Oct-2017                 | Lat: | N 32 6 35.06  | Northing:                                           | 404430.38RUS | Grid Conv:  | 0.3894°    |
| MagDec:                       | 6.806°    | FS:  | 47963.517nT | Gravity FS:      | 998.423mgal (9.80665 Based) | Lon: | W 103 36 2.46 | Easting:                                            | 768181.86RUS | Scale Fact: | 0.99996803 |
|                               |           |      |             |                  |                             |      |               | Cimarex Vaca Draw 20-17 Federal #5H Rev1 RM 10Oct17 |              |             |            |

EW (ft) Scale = 1:2796.36(ft)



| Critical Points                                                 |          |       |        |          |         |           |           |       |
|-----------------------------------------------------------------|----------|-------|--------|----------|---------|-----------|-----------|-------|
| Critical Point                                                  | MD       | INCL  | AZIM   | TVD      | VSEC    | N(+)/S(-) | E(+)/W(-) | DLS   |
| SHL [330' FSL, 670' FWL]                                        | 0.00     | 0.00  | 0.00   | 0.00     | 0.00    | 0.00      | 0.00      |       |
| Rustler                                                         | 950.00   | 0.00  | 324.97 | 950.00   | 0.00    | 0.00      | 0.00      | 0.00  |
| Top of Salt                                                     | 1270.00  | 0.00  | 324.97 | 1270.00  | 0.00    | 0.00      | 0.00      | 0.00  |
| Base of Salt                                                    | 4690.00  | 0.00  | 324.97 | 4690.00  | 0.00    | 0.00      | 0.00      | 0.00  |
| Delaware Sands                                                  | 4890.00  | 0.00  | 324.97 | 4890.00  | 0.00    | 0.00      | 0.00      | 0.00  |
| Bone Spring                                                     | 9023.00  | 0.00  | 324.97 | 9023.00  | 0.00    | 0.00      | 0.00      | 0.00  |
| Leonard Shale                                                   | 9081.00  | 0.00  | 324.97 | 9081.00  | 0.00    | 0.00      | 0.00      | 0.00  |
| Avalon Shale                                                    | 9320.00  | 0.00  | 324.97 | 9320.00  | 0.00    | 0.00      | 0.00      | 0.00  |
| KOP - Build 12'/100' DLS                                        | 9415.99  | 0.00  | 324.97 | 9415.99  | 0.00    | 0.00      | 0.00      | 0.00  |
| Build & Turn 12'/100' DLS                                       | 10040.99 | 75.00 | 324.97 | 9877.19  | 291.10  | 289.79    | -203.12   | 12.00 |
| Landing Point                                                   | 10352.54 | 90.00 | 359.63 | 9919.00  | 581.00  | 579.12    | -293.73   | 12.00 |
| Cimarex Vaca Draw 20-17 Federal #5H - PBHL [330' FNL, 380' FWL] | 19671.12 | 90.00 | 359.63 | 9919.00  | 9899.58 | 9897.50   | -354.26   | 0.00  |
| 1st Bone Spring Sand                                            | NaN      |       |        | 10021.00 |         |           |           |       |

# Cimarex Vaca Draw 20-17 Federal #5H Rev1 RM 10Oct17 Anti-Collision Summary Report

**Analysis Date-24hr Time:** October 10, 2017 - 10:14  
**Client:** Cimarex  
**Field:** NM Lea County (NAD 83)  
**Structure:** Cimarex Vaca Draw 20-17 Federal #5H  
**Slot:** Cimarex Vaca Draw 20-17 Federal #5H  
**Well:** Cimarex Vaca Draw 20-17 Federal #5H  
**Borehole:** Original Borehole  
**Scan MD Range:** 0.00ft ~ 19671.12ft

**Analysis Method:** 3D Least Distance  
**Reference Trajectory:** Cimarex Vaca Draw 20-17 Federal #5H Rev1 RM 10Oct17 (Non-Def Plan)  
**Depth Interval:** Every 10.00 Measured Depth (ft)  
**Rule Set:** NAL Procedure: D&M AntiCollision Standard S002  
**Min Pts:** All local minima indicated.  
**Version / Patch:** 2.10.544.0  
**Database \ Project:** US1153APP452.dir.slb.com\drilling-NM Lea County 2.10

**Trajectory Error Model:** ISCWSA0 3-D 95.000% Confidence 2.7955 sigma, for subject well. For offset wells, error model version is specified with each well respectively.

## Offset Trajectories Summary

### Offset Selection Criteria

Wellhead distance scan: Restricted within 60681.61 ft  
 Selection filters: Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans  
 - All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

| Offset Trajectory | Separation |          |          | Allow Dev. (ft) | Sep. Fact. | Controlling Rule | Reference Trajectory |          | Risk Level |       |       | Alert | Status |
|-------------------|------------|----------|----------|-----------------|------------|------------------|----------------------|----------|------------|-------|-------|-------|--------|
|                   | Ct-Ct (ft) | MAS (ft) | EOU (ft) |                 |            |                  | MD (ft)              | TVD (ft) | Alert      | Minor | Major |       |        |

Results highlighted: Sep-Factor separation <= 1.50 ft

Cimarex Vaca Draw 20-17  
 Federal #6H Rev1 RM  
 10Oct17 (Non-Def Plan)

|        |        |        |        |          |                |          |         |                 |          |          |  |             |            |
|--------|--------|--------|--------|----------|----------------|----------|---------|-----------------|----------|----------|--|-------------|------------|
| 20.02  | 16.52  | 17.52  | 3.50   | N/A      | MAS = 5.03 (m) | 0.00     | 0.00    | CtCt<=15m<15.00 |          |          |  | Enter Alert | Fail Major |
| 20.02  | 16.52  | 17.52  | 3.50   | 39429.73 | MAS = 5.03 (m) | 24.00    | 24.00   |                 |          |          |  | WRP         |            |
| 20.02  | 20.11  | 5.78   | -0.09  | 1.49     | OSF1.50        | 1930.00  | 1930.00 |                 | OSF<1.50 |          |  | Enter Minor |            |
| 20.02  | 28.88  | -0.06  | -8.85  | 1.00     | OSF1.50        | 2860.00  | 2860.00 |                 |          | OSF<1.00 |  | Enter Major |            |
| 16.06  | 85.54  | -41.80 | -69.48 | 0.24     | OSF1.50        | 8880.00  | 8880.00 |                 |          | OSF>1.00 |  | MinPts      |            |
| 51.82  | 78.48  | -1.33  | -26.66 | 0.97     | OSF1.50        | 9020.00  | 9020.00 |                 |          |          |  | Exit Major  |            |
| 70.97  | 75.97  | 19.50  | -4.99  | 1.40     | OSF1.50        | 9060.00  | 9060.00 |                 | OSF>1.50 |          |  | Exit Minor  |            |
| 203.75 | 63.63  | 160.50 | 140.12 | 4.94     | OSF1.50        | 9270.00  | 9270.00 | OSF>5.00        |          |          |  | Exit Alert  |            |
| 640.20 | 28.82  | 620.15 | 611.38 | 36.34    | OSF1.50        | 10360.00 | 9919.00 |                 |          |          |  | MinPt-CtCt  |            |
| 640.20 | 193.97 | 510.05 | 446.23 | 5.00     | OSF1.50        | 15990.00 | 9919.00 | OSF<5.00        |          |          |  | Enter Alert |            |
| 640.20 | 306.80 | 434.83 | 333.40 | 3.14     | OSF1.50        | 19671.12 | 9919.00 |                 |          |          |  | MinPts      |            |

Cimarex Vaca Draw 20-17  
 Federal #1H ST01 Rev0 RM  
 7Feb17 (Non-Def Plan)

|         |        |         |         |           |                 |          |         |          |          |          |  |             |            |
|---------|--------|---------|---------|-----------|-----------------|----------|---------|----------|----------|----------|--|-------------|------------|
| 99.98   | 32.81  | 97.48   | 67.17   | N/A       | MAS = 10.00 (m) | 0.00     | 0.00    |          |          |          |  | Surface     | Fail Major |
| 99.98   | 32.81  | 97.48   | 67.17   | 438737.03 | MAS = 10.00 (m) | 24.00    | 24.00   |          |          |          |  | WRP         |            |
| 99.98   | 32.81  | 77.94   | 67.17   | 4.99      | MAS = 10.00 (m) | 3170.00  | 3170.00 | OSF<5.00 |          |          |  | Enter Alert |            |
| 91.28   | 91.55  | 29.41   | -0.27   | 1.50      | OSF1.50         | 9510.00  | 9509.39 |          | OSF<1.50 |          |  | Enter Minor |            |
| 60.82   | 92.54  | -1.73   | -31.71  | 0.97      | OSF1.50         | 9620.00  | 9613.85 |          |          | OSF<1.00 |  | Enter Major |            |
| 31.77   | 93.29  | -31.26  | -61.52  | 0.48      | OSF1.50         | 9720.00  | 9699.87 |          |          | OSF>1.00 |  | MinPts      |            |
| 60.48   | 93.88  | -2.94   | -33.40  | 0.95      | OSF1.50         | 9800.00  | 9759.92 |          |          |          |  | Exit Major  |            |
| 87.38   | 94.12  | 23.80   | -6.74   | 1.39      | OSF1.50         | 9840.00  | 9786.43 |          | OSF>1.50 |          |  | Exit Minor  |            |
| 308.46  | 95.14  | 244.20  | 213.32  | 4.95      | OSF1.50         | 10090.00 | 9889.00 | OSF>5.00 |          |          |  | Exit Alert  |            |
| 2447.90 | 305.50 | 2243.40 | 2142.40 | 12.11     | OSF1.50         | 19671.12 | 9919.00 |          |          |          |  | MinPts      |            |

| Offset Trajectory                                                          | Separation |          |          | Allow<br>Dev. (ft) | Sep.<br>Fact. | Controlling<br>Rule | Reference Trajectory |          | Risk Level      |          |          | Alert | Status      |
|----------------------------------------------------------------------------|------------|----------|----------|--------------------|---------------|---------------------|----------------------|----------|-----------------|----------|----------|-------|-------------|
|                                                                            | Ct-Ct (ft) | MAS (ft) | EOU (ft) |                    |               |                     | MD (ft)              | TVD (ft) | Alert           | Minor    | Major    |       |             |
| Cimarex Vaca Draw 20-17<br>Federal #1H Rev0 RM<br>10Apr17 (Non-Def Plan)   |            |          |          |                    |               |                     |                      |          |                 |          |          |       |             |
|                                                                            | 99.98      | 32.81    | 97.48    | 67.17              | N/A           | MAS = 10.00 (m)     | 0.00                 | 0.00     |                 |          |          |       | Fail Major  |
|                                                                            | 99.98      | 32.81    | 97.48    | 67.17              | 438737.03     | MAS = 10.00 (m)     | 24.00                | 24.00    |                 |          |          |       | Surface     |
|                                                                            | 99.98      | 32.81    | 77.94    | 67.17              | 4.99          | MAS = 10.00 (m)     | 3170.00              | 3170.00  | OSF<5.00        |          |          |       | WRP         |
|                                                                            | 91.28      | 91.55    | 29.41    | -0.27              | 1.50          | OSF1.50             | 9510.00              | 9509.39  |                 | OSF<1.50 |          |       | Enter Alert |
|                                                                            | 60.82      | 92.54    | -1.73    | -31.71             | 0.97          | OSF1.50             | 9620.00              | 9613.85  |                 |          | OSF<1.00 |       | Enter Minor |
|                                                                            | 31.77      | 93.29    | -31.26   | -61.52             | 0.48          | OSF1.50             | 9720.00              | 9699.87  |                 |          |          |       | Enter Major |
|                                                                            | 60.48      | 93.88    | -2.94    | -33.40             | 0.95          | OSF1.50             | 9800.00              | 9759.92  |                 |          | OSF>1.00 |       | MinPts      |
|                                                                            | 87.38      | 94.12    | 23.80    | -6.74              | 1.39          | OSF1.50             | 9840.00              | 9786.43  |                 | OSF>1.50 |          |       | Exit Major  |
|                                                                            | 308.46     | 95.14    | 244.20   | 213.32             | 4.95          | OSF1.50             | 10090.00             | 9889.00  | OSF>5.00        |          |          |       | Exit Minor  |
|                                                                            | 9841.89    | 96.79    | 9776.53  | 9745.10            | 156.53        | OSF1.50             | 19671.12             | 9919.00  |                 |          |          |       | Exit Alert  |
|                                                                            |            |          |          |                    |               |                     |                      |          |                 |          |          |       | TD          |
| Cimarex Vaca Draw 20-17<br>Federal #7H Rev0 RM<br>18Apr17 (Non-Def Plan)   |            |          |          |                    |               |                     |                      |          |                 |          |          |       |             |
|                                                                            | 40.02      | 32.52    | 37.52    | 7.51               | N/A           | MAS = 9.91 (m)      | 0.00                 | 0.00     | CtCt<=15m<15.00 |          |          |       | Fail Major  |
|                                                                            | 40.02      | 32.52    | 37.52    | 7.50               | N/A           | MAS = 9.91 (m)      | 24.00                | 24.00    |                 |          |          |       | Enter Alert |
|                                                                            | 40.02      | 40.09    | 12.46    | -0.07              | 1.50          | OSF1.50             | 4050.00              | 4050.00  |                 | OSF<1.50 |          |       | WRP         |
|                                                                            | 40.02      | 58.85    | -0.04    | -18.83             | 1.00          | OSF1.50             | 6040.00              | 6040.00  |                 |          | OSF<1.00 |       | Enter Minor |
|                                                                            | 40.02      | 90.67    | -21.26   | -50.65             | 0.64          | OSF1.50             | 9415.99              | 9415.99  |                 |          |          |       | Enter Major |
|                                                                            | 40.03      | 90.71    | -21.27   | -50.68             | 0.64          | OSF1.50             | 9420.00              | 9420.00  |                 |          |          |       | MinPt-CtCt  |
|                                                                            | 60.40      | 92.10    | -1.83    | -31.70             | 0.97          | OSF1.50             | 9580.00              | 9576.79  |                 |          | OSF>1.00 |       | MinPts      |
|                                                                            | 89.98      | 92.76    | 27.31    | -2.78              | 1.45          | OSF1.50             | 9660.00              | 9649.52  |                 | OSF>1.50 |          |       | Exit Major  |
|                                                                            | 302.34     | 94.72    | 238.36   | 207.62             | 4.88          | OSF1.50             | 9960.00              | 9849.71  | OSF>5.00        |          |          |       | Exit Minor  |
|                                                                            | 2564.39    | 341.09   | 2336.17  | 2223.31            | 11.35         | OSF1.50             | 19671.12             | 9919.00  |                 |          |          |       | Exit Alert  |
|                                                                            |            |          |          |                    |               |                     |                      |          |                 |          |          |       | MinPts      |
| Cimarex Vaca Draw 20-17<br>Federal #8H Rev0 RM<br>18Apr17 (Non-Def Plan)   |            |          |          |                    |               |                     |                      |          |                 |          |          |       |             |
|                                                                            | 60.01      | 32.81    | 57.51    | 27.21              | N/A           | MAS = 10.00 (m)     | 0.00                 | 0.00     |                 |          |          |       | Fail Major  |
|                                                                            | 60.01      | 32.81    | 57.51    | 27.21              | N/A           | MAS = 10.00 (m)     | 24.00                | 24.00    |                 |          |          |       | Surface     |
|                                                                            | 60.01      | 32.81    | 45.96    | 27.21              | 4.98          | MAS = 10.00 (m)     | 1900.00              | 1900.00  | OSF<5.00        |          |          |       | WRP         |
|                                                                            | 60.01      | 60.08    | 19.13    | -0.06              | 1.50          | OSF1.50             | 6170.00              | 6170.00  |                 | OSF<1.50 |          |       | Enter Alert |
|                                                                            | 60.01      | 88.83    | -0.04    | -28.81             | 1.00          | OSF1.50             | 9220.00              | 9220.00  |                 |          | OSF<1.00 |       | Enter Minor |
|                                                                            | 60.01      | 90.67    | -1.27    | -30.66             | 0.98          | OSF1.50             | 9415.99              | 9415.99  |                 |          |          |       | Enter Major |
|                                                                            | 60.02      | 90.71    | -1.28    | -30.69             | 0.98          | OSF1.50             | 9420.00              | 9420.00  |                 |          |          |       | MinPt-CtCt  |
|                                                                            | 61.19      | 91.07    | -0.36    | -29.88             | 0.99          | OSF1.50             | 9460.00              | 9459.94  |                 |          | OSF>1.00 |       | MinPts      |
|                                                                            | 91.48      | 92.43    | 29.02    | -0.95              | 1.48          | OSF1.50             | 9620.00              | 9613.85  |                 | OSF>1.50 |          |       | Exit Major  |
|                                                                            | 306.83     | 94.69    | 242.87   | 212.14             | 4.95          | OSF1.50             | 9950.00              | 9845.43  | OSF>5.00        |          |          |       | Exit Minor  |
|                                                                            | 2622.58    | 356.82   | 2383.87  | 2265.77            | 11.09         | OSF1.50             | 19671.12             | 9919.00  |                 |          |          |       | Exit Alert  |
|                                                                            |            |          |          |                    |               |                     |                      |          |                 |          |          |       | MinPts      |
| Cimarex Vaca Draw 20-17<br>Federal #2H Rev1 bxu3<br>19Apr17 (Non-Def Plan) |            |          |          |                    |               |                     |                      |          |                 |          |          |       |             |
|                                                                            | 1241.30    | 32.81    | 1238.80  | 1208.49            | N/A           | MAS = 10.00 (m)     | 0.00                 | 0.00     |                 |          |          |       | Pass        |
|                                                                            | 1241.29    | 32.81    | 1238.79  | 1208.48            | N/A           | MAS = 10.00 (m)     | 24.00                | 24.00    |                 |          |          |       | Surface     |
|                                                                            | 993.66     | 82.95    | 937.35   | 910.71             | 18.59         | OSF1.50             | 9510.00              | 9509.39  |                 |          |          |       | WRP         |
|                                                                            | 993.71     | 83.01    | 937.36   | 910.70             | 18.58         | OSF1.50             | 9520.00              | 9519.18  |                 |          |          |       | MinPts      |
|                                                                            | 995.69     | 83.29    | 939.16   | 912.40             | 18.55         | OSF1.50             | 9570.00              | 9567.34  |                 |          |          |       | MinPt-O-ADP |
|                                                                            | 2904.47    | 330.81   | 2683.09  | 2573.66            | 13.26         | OSF1.50             | 19671.12             | 9919.00  |                 |          |          |       | MinPt-O-SF  |
|                                                                            |            |          |          |                    |               |                     |                      |          |                 |          |          |       | MinPts      |
| Cimarex Vaca Draw 20-17<br>Federal #3H Rev0 RM<br>13Apr17 (Non-Def Plan)   |            |          |          |                    |               |                     |                      |          |                 |          |          |       |             |
|                                                                            | 1261.30    | 32.81    | 1258.80  | 1228.49            | N/A           | MAS = 10.00 (m)     | 0.00                 | 0.00     |                 |          |          |       | Pass        |
|                                                                            |            |          |          |                    |               |                     |                      |          |                 |          |          |       | Surface     |

| Offset Trajectory | Separation |          |          | Allow<br>Dev. (ft) | Sep.<br>Fact. | Controlling<br>Rule | Reference Trajectory |          | Risk Level |       |       | Alert      | Status |
|-------------------|------------|----------|----------|--------------------|---------------|---------------------|----------------------|----------|------------|-------|-------|------------|--------|
|                   | Ct-Ct (ft) | MAS (ft) | EOU (ft) |                    |               |                     | MD (ft)              | TVD (ft) | Alert      | Minor | Major |            |        |
| 1261.29           | 32.81      | 1258.79  | 1228.48  | N/A                |               | MAS = 10.00 (m)     | 24.00                | 24.00    |            |       |       | WRP        |        |
| 1261.29           | 90.65      | 1200.02  | 1170.64  | 21.42              |               | OSF1.50             | 9415.99              | 9415.99  |            |       |       | MinPt-CtCt |        |
| 1261.29           | 90.69      | 1200.00  | 1170.61  | 21.41              |               | OSF1.50             | 9420.00              | 9420.00  |            |       |       | MinPts     |        |
| 1267.28           | 91.57      | 1205.40  | 1175.71  | 21.30              |               | OSF1.50             | 9520.00              | 9519.18  |            |       |       | MinPt-O-SF |        |
| 2758.61           | 384.09     | 2501.71  | 2374.51  | 10.83              |               | OSF1.50             | 19671.12             | 9919.00  |            |       |       | MinPts     |        |

Cimarex Vaca Draw 20-17  
Federal #4H Rev0 RM  
13Apr17 (Non-Def Plan)

|         |        |         |         |       |  |                 |          |         |  |  |  |            |      |
|---------|--------|---------|---------|-------|--|-----------------|----------|---------|--|--|--|------------|------|
| 1281.24 | 32.81  | 1278.74 | 1248.43 | N/A   |  | MAS = 10.00 (m) | 0.00     | 0.00    |  |  |  | Surface    | Pass |
| 1281.23 | 32.81  | 1278.73 | 1248.42 | N/A   |  | MAS = 10.00 (m) | 24.00    | 24.00   |  |  |  | WRP        |      |
| 1281.23 | 90.65  | 1219.96 | 1190.58 | 21.76 |  | OSF1.50         | 9415.99  | 9415.99 |  |  |  | MinPt-CtCt |      |
| 1281.23 | 90.68  | 1219.94 | 1190.55 | 21.75 |  | OSF1.50         | 9420.00  | 9420.00 |  |  |  | MinPts     |      |
| 1288.44 | 91.65  | 1226.51 | 1196.79 | 21.64 |  | OSF1.50         | 9530.00  | 9528.92 |  |  |  | MinPt-O-SF |      |
| 3094.59 | 432.77 | 2805.24 | 2661.82 | 10.78 |  | OSF1.50         | 19671.12 | 9919.00 |  |  |  | MinPts     |      |

# Cimarex Vaca Draw 20-17 Federal #5H Rev1 RM 10Oct17 Proposal

## Geodetic Report

(Non-Def Plan)



|                                      |                                                                           |                                             |                              |
|--------------------------------------|---------------------------------------------------------------------------|---------------------------------------------|------------------------------|
| <b>Report Date:</b>                  | October 10, 2017 - 09:59 AM                                               | <b>Survey / DLS Computation:</b>            | Minimum Curvature / Lubinski |
| <b>Client:</b>                       | Cimarex                                                                   | <b>Vertical Section Azimuth:</b>            | 359.630 ° (Grid North)       |
| <b>Field:</b>                        | NM Lea County (NAD 83)                                                    | <b>Vertical Section Origin:</b>             | 0.000 ft, 0.000 ft           |
| <b>Structure / Slot:</b>             | Cimarex Vaca Draw 20-17 Federal #5H / Cimarex Vaca Draw 20-17 Federal #5H | <b>TVD Reference Datum:</b>                 | RKB                          |
| <b>Well:</b>                         | Cimarex Vaca Draw 20-17 Federal #5H                                       | <b>TVD Reference Elevation:</b>             | 3447.200 ft above MSL        |
| <b>Borehole:</b>                     | Original Borehole                                                         | <b>Seabed / Ground Elevation:</b>           | 3423.200 ft above MSL        |
| <b>UWI / API#:</b>                   | Unknown / Unknown                                                         | <b>Magnetic Declination:</b>                | 6.806 °                      |
| <b>Survey Name:</b>                  | Cimarex Vaca Draw 20-17 Federal #5H Rev1 RM 10Oct17                       | <b>Total Gravity Field Strength:</b>        | 998.4293mgn (9.80665 Based)  |
| <b>Survey Date:</b>                  | April 18, 2017                                                            | <b>Gravity Model:</b>                       | GARM                         |
| <b>Tort / AHD / DDI / ERD Ratio:</b> | 112.386 ° / 9980.285 ft / 6.347 / 1.006                                   | <b>Total Magnetic Field Strength:</b>       | 47963.517 nT                 |
| <b>Coordinate Reference System:</b>  | NAD83 New Mexico State Plane, Eastern Zone, US Feet                       | <b>Magnetic Dip Angle:</b>                  | 59.830 °                     |
| <b>Location Lat / Long:</b>          | N 32° 6' 35.06052", W 103° 36' 2.46219"                                   | <b>Declination Date:</b>                    | October 10, 2017             |
| <b>Location Grid N/E Y/X:</b>        | N 404430.380 ftUS, E 768181.860 ftUS                                      | <b>Magnetic Declination Model:</b>          | HDGM 2016                    |
| <b>CRS Grid Convergence Angle:</b>   | 0.3894 °                                                                  | <b>North Reference:</b>                     | Grid North                   |
| <b>Grid Scale Factor:</b>            | 0.99996803                                                                | <b>Grid Convergence Used:</b>               | 0.3894 °                     |
| <b>Version / Patch:</b>              | 2.10.544.0                                                                | <b>Total Corr Mag North-&gt;Grid North:</b> | 6.4166 °                     |
|                                      |                                                                           | <b>Local Coord Referenced To:</b>           | Structure Reference Point    |

| Comments                    | MD<br>(ft) | Incl<br>(°) | Azim Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS) | Latitude<br>(N/S ° ' ")    | Longitude<br>(E/W ° ' ") |
|-----------------------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|----------------------------|--------------------------|
| SHL [330' FSL,<br>670' FWL] | 0.00       | 0.00        | 0.00             | 0.00        | 0.00         | 0.00       | 0.00       | N/A              | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 100.00     | 0.00        | 324.97           | 100.00      | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 200.00     | 0.00        | 324.97           | 200.00      | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 300.00     | 0.00        | 324.97           | 300.00      | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 400.00     | 0.00        | 324.97           | 400.00      | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 500.00     | 0.00        | 324.97           | 500.00      | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 600.00     | 0.00        | 324.97           | 600.00      | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 700.00     | 0.00        | 324.97           | 700.00      | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 800.00     | 0.00        | 324.97           | 800.00      | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 900.00     | 0.00        | 324.97           | 900.00      | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
| Rustler                     | 950.00     | 0.00        | 324.97           | 950.00      | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 1000.00    | 0.00        | 324.97           | 1000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 1100.00    | 0.00        | 324.97           | 1100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 1200.00    | 0.00        | 324.97           | 1200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
| Top of Salt                 | 1270.00    | 0.00        | 324.97           | 1270.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 1300.00    | 0.00        | 324.97           | 1300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 1400.00    | 0.00        | 324.97           | 1400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 1500.00    | 0.00        | 324.97           | 1500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 1600.00    | 0.00        | 324.97           | 1600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 1700.00    | 0.00        | 324.97           | 1700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 1800.00    | 0.00        | 324.97           | 1800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 1900.00    | 0.00        | 324.97           | 1900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 2000.00    | 0.00        | 324.97           | 2000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 2100.00    | 0.00        | 324.97           | 2100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 2200.00    | 0.00        | 324.97           | 2200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |
|                             | 2300.00    | 0.00        | 324.97           | 2300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36 2.46 |                          |

| Comments       | MD<br>(ft) | Incl<br>(°) | Azim Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS)          | Latitude<br>(N/S ° ' ")    | Longitude<br>(E/W ° ' ") |
|----------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|----------------------------|----------------------------|--------------------------|
|                | 2400.00    | 0.00        | 324.97           | 2400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 2500.00    | 0.00        | 324.97           | 2500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 2600.00    | 0.00        | 324.97           | 2600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 2700.00    | 0.00        | 324.97           | 2700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 2800.00    | 0.00        | 324.97           | 2800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 2900.00    | 0.00        | 324.97           | 2900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 3000.00    | 0.00        | 324.97           | 3000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 3100.00    | 0.00        | 324.97           | 3100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 3200.00    | 0.00        | 324.97           | 3200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 3300.00    | 0.00        | 324.97           | 3300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 3400.00    | 0.00        | 324.97           | 3400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 3500.00    | 0.00        | 324.97           | 3500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 3600.00    | 0.00        | 324.97           | 3600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 3700.00    | 0.00        | 324.97           | 3700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 3800.00    | 0.00        | 324.97           | 3800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 3900.00    | 0.00        | 324.97           | 3900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 4000.00    | 0.00        | 324.97           | 4000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 4100.00    | 0.00        | 324.97           | 4100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 4200.00    | 0.00        | 324.97           | 4200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 4300.00    | 0.00        | 324.97           | 4300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
| 4400.00        | 0.00       | 324.97      | 4400.00          | 0.00        | 0.00         | 0.00       | 0.00       | 404430.38        | 768181.86          | N 32 6 35.06 W 103 36 2.46 |                            |                          |
| Base of Salt   | 4500.00    | 0.00        | 324.97           | 4500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 4600.00    | 0.00        | 324.97           | 4600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 4690.00    | 0.00        | 324.97           | 4690.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 4700.00    | 0.00        | 324.97           | 4700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 4800.00    | 0.00        | 324.97           | 4800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
| Delaware Sands | 4890.00    | 0.00        | 324.97           | 4890.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 4900.00    | 0.00        | 324.97           | 4900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 5000.00    | 0.00        | 324.97           | 5000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 5100.00    | 0.00        | 324.97           | 5100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 5200.00    | 0.00        | 324.97           | 5200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 5300.00    | 0.00        | 324.97           | 5300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 5400.00    | 0.00        | 324.97           | 5400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 5500.00    | 0.00        | 324.97           | 5500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 5600.00    | 0.00        | 324.97           | 5600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 5700.00    | 0.00        | 324.97           | 5700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 5800.00    | 0.00        | 324.97           | 5800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 5900.00    | 0.00        | 324.97           | 5900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 6000.00    | 0.00        | 324.97           | 6000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 6100.00    | 0.00        | 324.97           | 6100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 6200.00    | 0.00        | 324.97           | 6200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 6300.00    | 0.00        | 324.97           | 6300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 6400.00    | 0.00        | 324.97           | 6400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 6500.00    | 0.00        | 324.97           | 6500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 6600.00    | 0.00        | 324.97           | 6600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 6700.00    | 0.00        | 324.97           | 6700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 6800.00    | 0.00        | 324.97           | 6800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 6900.00    | 0.00        | 324.97           | 6900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 7000.00    | 0.00        | 324.97           | 7000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 7100.00    | 0.00        | 324.97           | 7100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 7200.00    | 0.00        | 324.97           | 7200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 7300.00    | 0.00        | 324.97           | 7300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 7400.00    | 0.00        | 324.97           | 7400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 7500.00    | 0.00        | 324.97           | 7500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 7600.00    | 0.00        | 324.97           | 7600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 7700.00    | 0.00        | 324.97           | 7700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 7800.00    | 0.00        | 324.97           | 7800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |
|                | 7900.00    | 0.00        | 324.97           | 7900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86                  | N 32 6 35.06 W 103 36 2.46 |                          |

| Comments      | MD<br>(ft) | Incl<br>(°) | Azim Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS) | Latitude<br>(N/S ° ' ") | Longitude<br>(E/W ° ' ") |
|---------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|-------------------------|--------------------------|
|               | 8000.00    | 0.00        | 324.97           | 8000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 8100.00    | 0.00        | 324.97           | 8100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 8200.00    | 0.00        | 324.97           | 8200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 8300.00    | 0.00        | 324.97           | 8300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 8400.00    | 0.00        | 324.97           | 8400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 8500.00    | 0.00        | 324.97           | 8500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 8600.00    | 0.00        | 324.97           | 8600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 8700.00    | 0.00        | 324.97           | 8700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 8800.00    | 0.00        | 324.97           | 8800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 8900.00    | 0.00        | 324.97           | 8900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 9000.00    | 0.00        | 324.97           | 9000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
| Bone Spring   | 9023.00    | 0.00        | 324.97           | 9023.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
| Leonard Shale | 9081.00    | 0.00        | 324.97           | 9081.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 9100.00    | 0.00        | 324.97           | 9100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 9200.00    | 0.00        | 324.97           | 9200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 9300.00    | 0.00        | 324.97           | 9300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
| Avalon Shale  | 9320.00    | 0.00        | 324.97           | 9320.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
|               | 9400.00    | 0.00        | 324.97           | 9400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
| KOP - Build   | 9415.99    | 0.00        | 324.97           | 9415.99     | 0.00         | 0.00       | 0.00       | 0.00             | 404430.38          | 768181.86         | N 32 6 35.06 W 103 36   | 2.46                     |
| 12°/100' DLS  |            |             |                  |             |              |            |            |                  |                    |                   |                         |                          |
|               | 9500.00    | 10.08       | 324.97           | 9499.57     | 6.06         | 6.04       | -4.23      | 12.00            | 404436.42          | 768177.63         | N 32 6 35.12 W 103 36   | 2.51                     |
|               | 9600.00    | 22.08       | 324.97           | 9595.48     | 28.81        | 28.68      | -20.10     | 12.00            | 404459.06          | 768161.76         | N 32 6 35.35 W 103 36   | 2.69                     |
|               | 9700.00    | 34.08       | 324.97           | 9683.55     | 67.46        | 67.15      | -47.07     | 12.00            | 404497.53          | 768134.79         | N 32 6 35.73 W 103 36   | 3.00                     |
|               | 9800.00    | 46.08       | 324.97           | 9759.92     | 120.32       | 119.78     | -83.96     | 12.00            | 404550.16          | 768097.91         | N 32 6 36.25 W 103 36   | 3.43                     |
|               | 9900.00    | 58.08       | 324.97           | 9821.26     | 185.10       | 184.27     | -129.15    | 12.00            | 404614.64          | 768052.71         | N 32 6 36.89 W 103 36   | 3.95                     |
|               | 10000.00   | 70.08       | 324.97           | 9864.89     | 258.94       | 257.78     | -180.68    | 12.00            | 404688.15          | 768001.18         | N 32 6 37.62 W 103 36   | 4.54                     |
| Build & Turn  | 10040.99   | 75.00       | 324.97           | 9877.19     | 291.10       | 289.79     | -203.12    | 12.00            | 404720.16          | 767978.75         | N 32 6 37.94 W 103 36   | 4.80                     |
| 12°/100' DLS  |            |             |                  |             |              |            |            |                  |                    |                   |                         |                          |
|               | 10100.00   | 77.58       | 331.76           | 9891.19     | 340.08       | 338.58     | -233.15    | 12.00            | 404768.95          | 767948.72         | N 32 6 38.43 W 103 36   | 5.15                     |
|               | 10200.00   | 82.31       | 342.97           | 9908.70     | 431.04       | 429.30     | -270.90    | 12.00            | 404859.67          | 767910.97         | N 32 6 39.33 W 103 36   | 5.58                     |
|               | 10300.00   | 87.32       | 353.92           | 9917.77     | 528.57       | 526.70     | -290.78    | 12.00            | 404957.06          | 767891.09         | N 32 6 40.29 W 103 36   | 5.80                     |
| Landing Point | 10352.54   | 90.00       | 359.63           | 9919.00     | 581.00       | 579.12     | -293.73    | 12.00            | 405009.48          | 767888.14         | N 32 6 40.81 W 103 36   | 5.83                     |
|               | 10400.00   | 90.00       | 359.63           | 9919.00     | 628.46       | 626.58     | -294.04    | 0.00             | 405056.94          | 767887.83         | N 32 6 41.28 W 103 36   | 5.83                     |
|               | 10500.00   | 90.00       | 359.63           | 9919.00     | 728.46       | 726.57     | -294.69    | 0.00             | 405156.93          | 767887.18         | N 32 6 42.27 W 103 36   | 5.83                     |
|               | 10600.00   | 90.00       | 359.63           | 9919.00     | 828.46       | 826.57     | -295.34    | 0.00             | 405256.92          | 767886.53         | N 32 6 43.26 W 103 36   | 5.83                     |
|               | 10700.00   | 90.00       | 359.63           | 9919.00     | 928.46       | 926.57     | -295.99    | 0.00             | 405356.92          | 767885.88         | N 32 6 44.25 W 103 36   | 5.83                     |
|               | 10800.00   | 90.00       | 359.63           | 9919.00     | 1028.46      | 1026.57    | -296.64    | 0.00             | 405456.91          | 767885.23         | N 32 6 45.24 W 103 36   | 5.83                     |
|               | 10900.00   | 90.00       | 359.63           | 9919.00     | 1128.46      | 1126.57    | -297.29    | 0.00             | 405556.91          | 767884.58         | N 32 6 46.23 W 103 36   | 5.83                     |
|               | 11000.00   | 90.00       | 359.63           | 9919.00     | 1228.46      | 1226.56    | -297.94    | 0.00             | 405656.90          | 767883.93         | N 32 6 47.22 W 103 36   | 5.83                     |
|               | 11100.00   | 90.00       | 359.63           | 9919.00     | 1328.46      | 1326.56    | -298.59    | 0.00             | 405756.90          | 767883.28         | N 32 6 48.21 W 103 36   | 5.83                     |
|               | 11200.00   | 90.00       | 359.63           | 9919.00     | 1428.46      | 1426.56    | -299.24    | 0.00             | 405856.89          | 767882.63         | N 32 6 49.20 W 103 36   | 5.83                     |
|               | 11300.00   | 90.00       | 359.63           | 9919.00     | 1528.46      | 1526.56    | -299.89    | 0.00             | 405956.89          | 767881.99         | N 32 6 50.19 W 103 36   | 5.83                     |
|               | 11400.00   | 90.00       | 359.63           | 9919.00     | 1628.46      | 1626.56    | -300.53    | 0.00             | 406056.88          | 767881.34         | N 32 6 51.18 W 103 36   | 5.83                     |
|               | 11500.00   | 90.00       | 359.63           | 9919.00     | 1728.46      | 1726.55    | -301.18    | 0.00             | 406156.87          | 767880.69         | N 32 6 52.17 W 103 36   | 5.83                     |
|               | 11600.00   | 90.00       | 359.63           | 9919.00     | 1828.46      | 1826.55    | -301.83    | 0.00             | 406256.87          | 767880.04         | N 32 6 53.15 W 103 36   | 5.83                     |
|               | 11700.00   | 90.00       | 359.63           | 9919.00     | 1928.46      | 1926.55    | -302.48    | 0.00             | 406356.86          | 767879.39         | N 32 6 54.14 W 103 36   | 5.83                     |
|               | 11800.00   | 90.00       | 359.63           | 9919.00     | 2028.46      | 2026.55    | -303.13    | 0.00             | 406456.86          | 767878.74         | N 32 6 55.13 W 103 36   | 5.83                     |
|               | 11900.00   | 90.00       | 359.63           | 9919.00     | 2128.46      | 2126.55    | -303.78    | 0.00             | 406556.85          | 767878.09         | N 32 6 56.12 W 103 36   | 5.83                     |
|               | 12000.00   | 90.00       | 359.63           | 9919.00     | 2228.46      | 2226.54    | -304.43    | 0.00             | 406656.85          | 767877.44         | N 32 6 57.11 W 103 36   | 5.83                     |
|               | 12100.00   | 90.00       | 359.63           | 9919.00     | 2328.46      | 2326.54    | -305.08    | 0.00             | 406756.84          | 767876.79         | N 32 6 58.10 W 103 36   | 5.83                     |
|               | 12200.00   | 90.00       | 359.63           | 9919.00     | 2428.46      | 2426.54    | -305.73    | 0.00             | 406856.84          | 767876.14         | N 32 6 59.09 W 103 36   | 5.83                     |
|               | 12300.00   | 90.00       | 359.63           | 9919.00     | 2528.46      | 2526.54    | -306.38    | 0.00             | 406956.83          | 767875.49         | N 32 7 0.08 W 103 36    | 5.82                     |
|               | 12400.00   | 90.00       | 359.63           | 9919.00     | 2628.46      | 2626.53    | -307.03    | 0.00             | 407056.83          | 767874.84         | N 32 7 1.07 W 103 36    | 5.82                     |
|               | 12500.00   | 90.00       | 359.63           | 9919.00     | 2728.46      | 2726.53    | -307.68    | 0.00             | 407156.82          | 767874.19         | N 32 7 2.06 W 103 36    | 5.82                     |
|               | 12600.00   | 90.00       | 359.63           | 9919.00     | 2828.46      | 2826.53    | -308.33    | 0.00             | 407256.81          | 767873.54         | N 32 7 3.05 W 103 36    | 5.82                     |
|               | 12700.00   | 90.00       | 359.63           | 9919.00     | 2928.46      | 2926.53    | -308.98    | 0.00             | 407356.81          | 767872.89         | N 32 7 4.04 W 103 36    | 5.82                     |
|               | 12800.00   | 90.00       | 359.63           | 9919.00     | 3028.46      | 3026.53    | -309.63    | 0.00             | 407456.80          | 767872.24         | N 32 7 5.03 W 103 36    | 5.82                     |
|               | 12900.00   | 90.00       | 359.63           | 9919.00     | 3128.46      | 3126.52    | -310.28    | 0.00             | 407556.80          | 767871.59         | N 32 7 6.02 W 103 36    | 5.82                     |
|               | 13000.00   | 90.00       | 359.63           | 9919.00     | 3228.46      | 3226.52    | -310.93    | 0.00             | 407656.79          | 767870.94         | N 32 7 7.01 W 103 36    | 5.82                     |

| Comments | MD<br>(ft) | Incl<br>(°) | Azim Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS) | Latitude<br>(N/S ° ' ") | Longitude<br>(E/W ° ' ") |
|----------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|-------------------------|--------------------------|
|          | 13100.00   | 90.00       | 359.63           | 9919.00     | 3328.46      | 3326.52    | -311.58    | 0.00             | 407756.79          | 767870.29         | N 32 7 8.00 W           | 103 36 5.82              |
|          | 13200.00   | 90.00       | 359.63           | 9919.00     | 3428.46      | 3426.52    | -312.23    | 0.00             | 407856.78          | 767869.64         | N 32 7 8.99 W           | 103 36 5.82              |
|          | 13300.00   | 90.00       | 359.63           | 9919.00     | 3528.46      | 3526.52    | -312.88    | 0.00             | 407956.78          | 767868.99         | N 32 7 9.98 W           | 103 36 5.82              |
|          | 13400.00   | 90.00       | 359.63           | 9919.00     | 3628.46      | 3626.51    | -313.53    | 0.00             | 408056.77          | 767868.34         | N 32 7 10.97 W          | 103 36 5.82              |
|          | 13500.00   | 90.00       | 359.63           | 9919.00     | 3728.46      | 3726.51    | -314.18    | 0.00             | 408156.76          | 767867.69         | N 32 7 11.96 W          | 103 36 5.82              |
|          | 13600.00   | 90.00       | 359.63           | 9919.00     | 3828.46      | 3826.51    | -314.83    | 0.00             | 408256.76          | 767867.05         | N 32 7 12.95 W          | 103 36 5.82              |
|          | 13700.00   | 90.00       | 359.63           | 9919.00     | 3928.46      | 3926.51    | -315.47    | 0.00             | 408356.75          | 767866.40         | N 32 7 13.93 W          | 103 36 5.82              |
|          | 13800.00   | 90.00       | 359.63           | 9919.00     | 4028.46      | 4026.51    | -316.12    | 0.00             | 408456.75          | 767865.75         | N 32 7 14.92 W          | 103 36 5.82              |
|          | 13900.00   | 90.00       | 359.63           | 9919.00     | 4128.46      | 4126.50    | -316.77    | 0.00             | 408556.74          | 767865.10         | N 32 7 15.91 W          | 103 36 5.82              |
|          | 14000.00   | 90.00       | 359.63           | 9919.00     | 4228.46      | 4226.50    | -317.42    | 0.00             | 408656.74          | 767864.45         | N 32 7 16.90 W          | 103 36 5.82              |
|          | 14100.00   | 90.00       | 359.63           | 9919.00     | 4328.46      | 4326.50    | -318.07    | 0.00             | 408756.73          | 767863.80         | N 32 7 17.89 W          | 103 36 5.82              |
|          | 14200.00   | 90.00       | 359.63           | 9919.00     | 4428.46      | 4426.50    | -318.72    | 0.00             | 408856.73          | 767863.15         | N 32 7 18.88 W          | 103 36 5.82              |
|          | 14300.00   | 90.00       | 359.63           | 9919.00     | 4528.46      | 4526.49    | -319.37    | 0.00             | 408956.72          | 767862.50         | N 32 7 19.87 W          | 103 36 5.82              |
|          | 14400.00   | 90.00       | 359.63           | 9919.00     | 4628.46      | 4626.49    | -320.02    | 0.00             | 409056.72          | 767861.85         | N 32 7 20.86 W          | 103 36 5.82              |
|          | 14500.00   | 90.00       | 359.63           | 9919.00     | 4728.46      | 4726.49    | -320.67    | 0.00             | 409156.71          | 767861.20         | N 32 7 21.85 W          | 103 36 5.82              |
|          | 14600.00   | 90.00       | 359.63           | 9919.00     | 4828.46      | 4826.49    | -321.32    | 0.00             | 409256.70          | 767860.55         | N 32 7 22.84 W          | 103 36 5.82              |
|          | 14700.00   | 90.00       | 359.63           | 9919.00     | 4928.46      | 4926.49    | -321.97    | 0.00             | 409356.70          | 767859.90         | N 32 7 23.83 W          | 103 36 5.82              |
|          | 14800.00   | 90.00       | 359.63           | 9919.00     | 5028.46      | 5026.48    | -322.62    | 0.00             | 409456.69          | 767859.25         | N 32 7 24.82 W          | 103 36 5.82              |
|          | 14900.00   | 90.00       | 359.63           | 9919.00     | 5128.46      | 5126.48    | -323.27    | 0.00             | 409556.69          | 767858.60         | N 32 7 25.81 W          | 103 36 5.82              |
|          | 15000.00   | 90.00       | 359.63           | 9919.00     | 5228.46      | 5226.48    | -323.92    | 0.00             | 409656.68          | 767857.95         | N 32 7 26.80 W          | 103 36 5.82              |
|          | 15100.00   | 90.00       | 359.63           | 9919.00     | 5328.46      | 5326.48    | -324.57    | 0.00             | 409756.68          | 767857.30         | N 32 7 27.79 W          | 103 36 5.82              |
|          | 15200.00   | 90.00       | 359.63           | 9919.00     | 5428.46      | 5426.48    | -325.22    | 0.00             | 409856.67          | 767856.65         | N 32 7 28.78 W          | 103 36 5.81              |
|          | 15300.00   | 90.00       | 359.63           | 9919.00     | 5528.46      | 5526.47    | -325.87    | 0.00             | 409956.67          | 767856.00         | N 32 7 29.77 W          | 103 36 5.81              |
|          | 15400.00   | 90.00       | 359.63           | 9919.00     | 5628.46      | 5626.47    | -326.52    | 0.00             | 410056.66          | 767855.35         | N 32 7 30.76 W          | 103 36 5.81              |
|          | 15500.00   | 90.00       | 359.63           | 9919.00     | 5728.46      | 5726.47    | -327.17    | 0.00             | 410156.65          | 767854.70         | N 32 7 31.75 W          | 103 36 5.81              |
|          | 15600.00   | 90.00       | 359.63           | 9919.00     | 5828.46      | 5826.47    | -327.82    | 0.00             | 410256.65          | 767854.05         | N 32 7 32.74 W          | 103 36 5.81              |
|          | 15700.00   | 90.00       | 359.63           | 9919.00     | 5928.46      | 5926.46    | -328.47    | 0.00             | 410356.64          | 767853.40         | N 32 7 33.73 W          | 103 36 5.81              |
|          | 15800.00   | 90.00       | 359.63           | 9919.00     | 6028.46      | 6026.46    | -329.12    | 0.00             | 410456.64          | 767852.76         | N 32 7 34.72 W          | 103 36 5.81              |
|          | 15900.00   | 90.00       | 359.63           | 9919.00     | 6128.46      | 6126.46    | -329.77    | 0.00             | 410556.63          | 767852.11         | N 32 7 35.70 W          | 103 36 5.81              |
|          | 16000.00   | 90.00       | 359.63           | 9919.00     | 6228.46      | 6226.46    | -330.42    | 0.00             | 410656.63          | 767851.46         | N 32 7 36.69 W          | 103 36 5.81              |
|          | 16100.00   | 90.00       | 359.63           | 9919.00     | 6328.46      | 6326.46    | -331.06    | 0.00             | 410756.62          | 767850.81         | N 32 7 37.68 W          | 103 36 5.81              |
|          | 16200.00   | 90.00       | 359.63           | 9919.00     | 6428.46      | 6426.45    | -331.71    | 0.00             | 410856.62          | 767850.16         | N 32 7 38.67 W          | 103 36 5.81              |
|          | 16300.00   | 90.00       | 359.63           | 9919.00     | 6528.46      | 6526.45    | -332.36    | 0.00             | 410956.61          | 767849.51         | N 32 7 39.66 W          | 103 36 5.81              |
|          | 16400.00   | 90.00       | 359.63           | 9919.00     | 6628.46      | 6626.45    | -333.01    | 0.00             | 411056.61          | 767848.86         | N 32 7 40.65 W          | 103 36 5.81              |
|          | 16500.00   | 90.00       | 359.63           | 9919.00     | 6728.46      | 6726.45    | -333.66    | 0.00             | 411156.60          | 767848.21         | N 32 7 41.64 W          | 103 36 5.81              |
|          | 16600.00   | 90.00       | 359.63           | 9919.00     | 6828.46      | 6826.45    | -334.31    | 0.00             | 411256.59          | 767847.56         | N 32 7 42.63 W          | 103 36 5.81              |
|          | 16700.00   | 90.00       | 359.63           | 9919.00     | 6928.46      | 6926.44    | -334.96    | 0.00             | 411356.59          | 767846.91         | N 32 7 43.62 W          | 103 36 5.81              |
|          | 16800.00   | 90.00       | 359.63           | 9919.00     | 7028.46      | 7026.44    | -335.61    | 0.00             | 411456.58          | 767846.26         | N 32 7 44.61 W          | 103 36 5.81              |
|          | 16900.00   | 90.00       | 359.63           | 9919.00     | 7128.46      | 7126.44    | -336.26    | 0.00             | 411556.58          | 767845.61         | N 32 7 45.60 W          | 103 36 5.81              |
|          | 17000.00   | 90.00       | 359.63           | 9919.00     | 7228.46      | 7226.44    | -336.91    | 0.00             | 411656.57          | 767844.96         | N 32 7 46.59 W          | 103 36 5.81              |
|          | 17100.00   | 90.00       | 359.63           | 9919.00     | 7328.46      | 7326.44    | -337.56    | 0.00             | 411756.57          | 767844.31         | N 32 7 47.58 W          | 103 36 5.81              |
|          | 17200.00   | 90.00       | 359.63           | 9919.00     | 7428.46      | 7426.43    | -338.21    | 0.00             | 411856.56          | 767843.66         | N 32 7 48.57 W          | 103 36 5.81              |
|          | 17300.00   | 90.00       | 359.63           | 9919.00     | 7528.46      | 7526.43    | -338.86    | 0.00             | 411956.56          | 767843.01         | N 32 7 49.56 W          | 103 36 5.81              |
|          | 17400.00   | 90.00       | 359.63           | 9919.00     | 7628.46      | 7626.43    | -339.51    | 0.00             | 412056.55          | 767842.36         | N 32 7 50.55 W          | 103 36 5.81              |
|          | 17500.00   | 90.00       | 359.63           | 9919.00     | 7728.46      | 7726.43    | -340.16    | 0.00             | 412156.54          | 767841.71         | N 32 7 51.54 W          | 103 36 5.81              |
|          | 17600.00   | 90.00       | 359.63           | 9919.00     | 7828.46      | 7826.42    | -340.81    | 0.00             | 412256.54          | 767841.06         | N 32 7 52.53 W          | 103 36 5.81              |
|          | 17700.00   | 90.00       | 359.63           | 9919.00     | 7928.46      | 7926.42    | -341.46    | 0.00             | 412356.53          | 767840.41         | N 32 7 53.52 W          | 103 36 5.81              |
|          | 17800.00   | 90.00       | 359.63           | 9919.00     | 8028.46      | 8026.42    | -342.11    | 0.00             | 412456.53          | 767839.76         | N 32 7 54.51 W          | 103 36 5.81              |
|          | 17900.00   | 90.00       | 359.63           | 9919.00     | 8128.46      | 8126.42    | -342.76    | 0.00             | 412556.52          | 767839.11         | N 32 7 55.50 W          | 103 36 5.81              |
|          | 18000.00   | 90.00       | 359.63           | 9919.00     | 8228.46      | 8226.42    | -343.41    | 0.00             | 412656.52          | 767838.46         | N 32 7 56.48 W          | 103 36 5.81              |
|          | 18100.00   | 90.00       | 359.63           | 9919.00     | 8328.46      | 8326.41    | -344.06    | 0.00             | 412756.51          | 767837.82         | N 32 7 57.47 W          | 103 36 5.80              |
|          | 18200.00   | 90.00       | 359.63           | 9919.00     | 8428.46      | 8426.41    | -344.71    | 0.00             | 412856.51          | 767837.17         | N 32 7 58.46 W          | 103 36 5.80              |
|          | 18300.00   | 90.00       | 359.63           | 9919.00     | 8528.46      | 8526.41    | -345.36    | 0.00             | 412956.50          | 767836.52         | N 32 7 59.45 W          | 103 36 5.80              |
|          | 18400.00   | 90.00       | 359.63           | 9919.00     | 8628.46      | 8626.41    | -346.01    | 0.00             | 413056.49          | 767835.87         | N 32 8 0.44 W           | 103 36 5.80              |
|          | 18500.00   | 90.00       | 359.63           | 9919.00     | 8728.46      | 8726.41    | -346.65    | 0.00             | 413156.49          | 767835.22         | N 32 8 1.43 W           | 103 36 5.80              |
|          | 18600.00   | 90.00       | 359.63           | 9919.00     | 8828.46      | 8826.40    | -347.30    | 0.00             | 413256.48          | 767834.57         | N 32 8 2.42 W           | 103 36 5.80              |
|          | 18700.00   | 90.00       | 359.63           | 9919.00     | 8928.46      | 8926.40    | -347.95    | 0.00             | 413356.48          | 767833.92         | N 32 8 3.41 W           | 103 36 5.80              |
|          | 18800.00   | 90.00       | 359.63           | 9919.00     | 9028.46      | 9026.40    | -348.60    | 0.00             | 413456.47          | 767833.27         | N 32 8 4.40 W           | 103 36 5.80              |
|          | 18900.00   | 90.00       | 359.63           | 9919.00     | 9128.46      | 9126.40    | -349.25    | 0.00             | 413556.47          | 767832.62         | N 32 8 5.39 W           | 103 36 5.80              |

| Comments                                                                    | MD<br>(ft) | Incl<br>(°) | Azim Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS) | Latitude<br>(N/S ° ' ")    | Longitude<br>(E/W ° ' ") |
|-----------------------------------------------------------------------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|----------------------------|--------------------------|
|                                                                             | 19000.00   | 90.00       | 359.63           | 9919.00     | 9228.46      | 9226.40    | -349.90    | 0.00             | 413656.46          | 767831.97         | N 32 8 6.38 W 103 36 5.80  |                          |
|                                                                             | 19100.00   | 90.00       | 359.63           | 9919.00     | 9328.46      | 9326.39    | -350.55    | 0.00             | 413756.46          | 767831.32         | N 32 8 7.37 W 103 36 5.80  |                          |
|                                                                             | 19200.00   | 90.00       | 359.63           | 9919.00     | 9428.46      | 9426.39    | -351.20    | 0.00             | 413856.45          | 767830.67         | N 32 8 8.36 W 103 36 5.80  |                          |
|                                                                             | 19300.00   | 90.00       | 359.63           | 9919.00     | 9528.46      | 9526.39    | -351.85    | 0.00             | 413956.45          | 767830.02         | N 32 8 9.35 W 103 36 5.80  |                          |
|                                                                             | 19400.00   | 90.00       | 359.63           | 9919.00     | 9628.46      | 9626.39    | -352.50    | 0.00             | 414056.44          | 767829.37         | N 32 8 10.34 W 103 36 5.80 |                          |
|                                                                             | 19500.00   | 90.00       | 359.63           | 9919.00     | 9728.46      | 9726.38    | -353.15    | 0.00             | 414156.43          | 767828.72         | N 32 8 11.33 W 103 36 5.80 |                          |
|                                                                             | 19600.00   | 90.00       | 359.63           | 9919.00     | 9828.46      | 9826.38    | -353.80    | 0.00             | 414256.43          | 767828.07         | N 32 8 12.32 W 103 36 5.80 |                          |
| Cimarex Vaca<br>Draw 20-17<br>Federal #5H -<br>PBHL [330'<br>FNL, 380' FWL] | 19671.12   | 90.00       | 359.63           | 9919.00     | 9899.58      | 9897.50    | -354.26    | 0.00             | 414327.54          | 767827.61         | N 32 8 13.02 W 103 36 5.80 |                          |

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 \*\*\* 3-D 95.000% Confidence 2.7955 sigma  
Survey Program:

| Description | Part | MD From<br>(ft) | MD To<br>(ft) | EOU Freq<br>(ft) | Hole Size<br>(in) | Casing<br>Diameter<br>(in) | Expected Max<br>Inclination<br>(deg) | Survey Tool Type                    | Borehole / Survey                                                             |
|-------------|------|-----------------|---------------|------------------|-------------------|----------------------------|--------------------------------------|-------------------------------------|-------------------------------------------------------------------------------|
|             | 1    | 0.000           | 24.000        | 1/100.000        | 30.000            | 30.000                     |                                      | NAL_MWD_PLUS_0.5_DEG-<br>Depth Only | Original Borehole / Cimarex Vaca<br>Draw 20-17 Federal #5H Rev1<br>RM 10Oct17 |
|             | 1    | 24.000          | 19671.115     | 1/100.000        | 30.000            | 30.000                     |                                      | NAL_MWD_PLUS_0.5_DEG                | Original Borehole / Cimarex Vaca<br>Draw 20-17 Federal #5H Rev1               |