

**District I**

1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

Form C-101  
August 1, 2011

Permit 366949

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

|                                                                                                            |                                              |                               |
|------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------|
| 1. Operator Name and Address<br>CIMAREX ENERGY CO. OF COLORADO<br>6001 Deauville Blvd<br>Midland, TX 79706 |                                              | 2. OGRID Number<br>162683     |
|                                                                                                            |                                              | 3. API Number<br>30-025-53155 |
| 4. Property Code<br>336070                                                                                 | 5. Property Name<br>TURNPIKE 33 32 STATE COM | 6. Well No.<br>212H           |

**7. Surface Location**

|               |               |                 |              |              |                   |               |                  |               |               |
|---------------|---------------|-----------------|--------------|--------------|-------------------|---------------|------------------|---------------|---------------|
| UL - Lot<br>P | Section<br>33 | Township<br>18S | Range<br>34E | Lot Idn<br>P | Feet From<br>1204 | N/S Line<br>S | Feet From<br>347 | E/W Line<br>E | County<br>Lea |
|---------------|---------------|-----------------|--------------|--------------|-------------------|---------------|------------------|---------------|---------------|

**8. Proposed Bottom Hole Location**

|               |               |                 |              |              |                   |               |                  |               |               |
|---------------|---------------|-----------------|--------------|--------------|-------------------|---------------|------------------|---------------|---------------|
| UL - Lot<br>L | Section<br>32 | Township<br>18S | Range<br>34E | Lot Idn<br>L | Feet From<br>2030 | N/S Line<br>S | Feet From<br>100 | E/W Line<br>W | County<br>Lea |
|---------------|---------------|-----------------|--------------|--------------|-------------------|---------------|------------------|---------------|---------------|

**9. Pool Information**

|                 |       |
|-----------------|-------|
| E-K;BONE SPRING | 21650 |
|-----------------|-------|

**Additional Well Information**

|                           |                             |                                        |                         |                                    |
|---------------------------|-----------------------------|----------------------------------------|-------------------------|------------------------------------|
| 11. Work Type<br>New Well | 12. Well Type<br>OIL        | 13. Cable/Rotary                       | 14. Lease Type<br>State | 15. Ground Level Elevation<br>4001 |
| 16. Multiple<br>N         | 17. Proposed Depth<br>20063 | 18. Formation<br>2nd Bone Spring Sand  | 19. Contractor          | 20. Spud Date<br>10/1/2024         |
| Depth to Ground water     |                             | Distance from nearest fresh water well |                         | Distance to nearest surface water  |

☒ We will be using a closed-loop system in lieu of lined pits

**21. Proposed Casing and Cement Program**

| Type   | Hole Size | Casing Size | Casing Weight/ft | Setting Depth | Sacks of Cement | Estimated TOC |
|--------|-----------|-------------|------------------|---------------|-----------------|---------------|
| Surf   | 17.5      | 13.375      | 54.5             | 1890          | 1161            | 0             |
| Int1   | 12.25     | 9.625       | 40               | 3867          | 877             | 0             |
| Prod   | 8.75      | 7           | 29               | 10091         | 477             | 3607          |
| Liner1 | 6         | 4.5         | 11.6             | 20063         | 741             | 9891          |

**Casing/Cement Program: Additional Comments**

|  |
|--|
|  |
|--|

**22. Proposed Blowout Prevention Program**

| Type       | Working Pressure | Test Pressure | Manufacturer |
|------------|------------------|---------------|--------------|
| Annular    | 10000            | 5000          |              |
| Double Ram | 10000            | 10000         |              |
| Pipe       | 10000            | 10000         |              |

|                                                                                                                                                                                                                                                                                                           |                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| 23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.<br><b>I further certify I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> if applicable.</b> | <b>OIL CONSERVATION DIVISION</b>                            |
| Signature:                                                                                                                                                                                                                                                                                                |                                                             |
| Printed Name:      Electronically filed by Phillip Levasseur                                                                                                                                                                                                                                              | Approved By:      Paul F Kautz                              |
| Title:      Regulatory Compliance Manager                                                                                                                                                                                                                                                                 | Title:      Geologist                                       |
| Email Address:      phillip.levasseur@coterra.com                                                                                                                                                                                                                                                         | Approved Date:      7/5/2024      Expiration Date: 7/5/2026 |
| Date:      6/13/2024      Phone: 412-759-4585                                                                                                                                                                                                                                                             | Conditions of Approval Attached                             |

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 Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
 Energy, Minerals & Natural Resources Department  
**OIL CONSERVATION DIVISION**  
 1220 South St. Francis Dr.  
 Santa Fe, NM 87505

Form C-102  
 Revised August 1, 2011  
 Submit one copy to appropriate  
 District Office

☐ AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

|                                  |                                                          |                                         |
|----------------------------------|----------------------------------------------------------|-----------------------------------------|
| <sup>1</sup> API Number          | <sup>2</sup> Pool Code<br>21650                          | E-K; Bone Spring <sup>3</sup> Pool Name |
| <sup>4</sup> Property Code       | <sup>5</sup> Property Name<br>TURNPIKE 33-32 STATE COM   | <sup>6</sup> Well Number<br>212H        |
| <sup>7</sup> OGRID No.<br>162683 | <sup>8</sup> Operator Name<br>CIMAREX ENERGY OF COLORADO | <sup>9</sup> Elevation<br>4000.5'       |

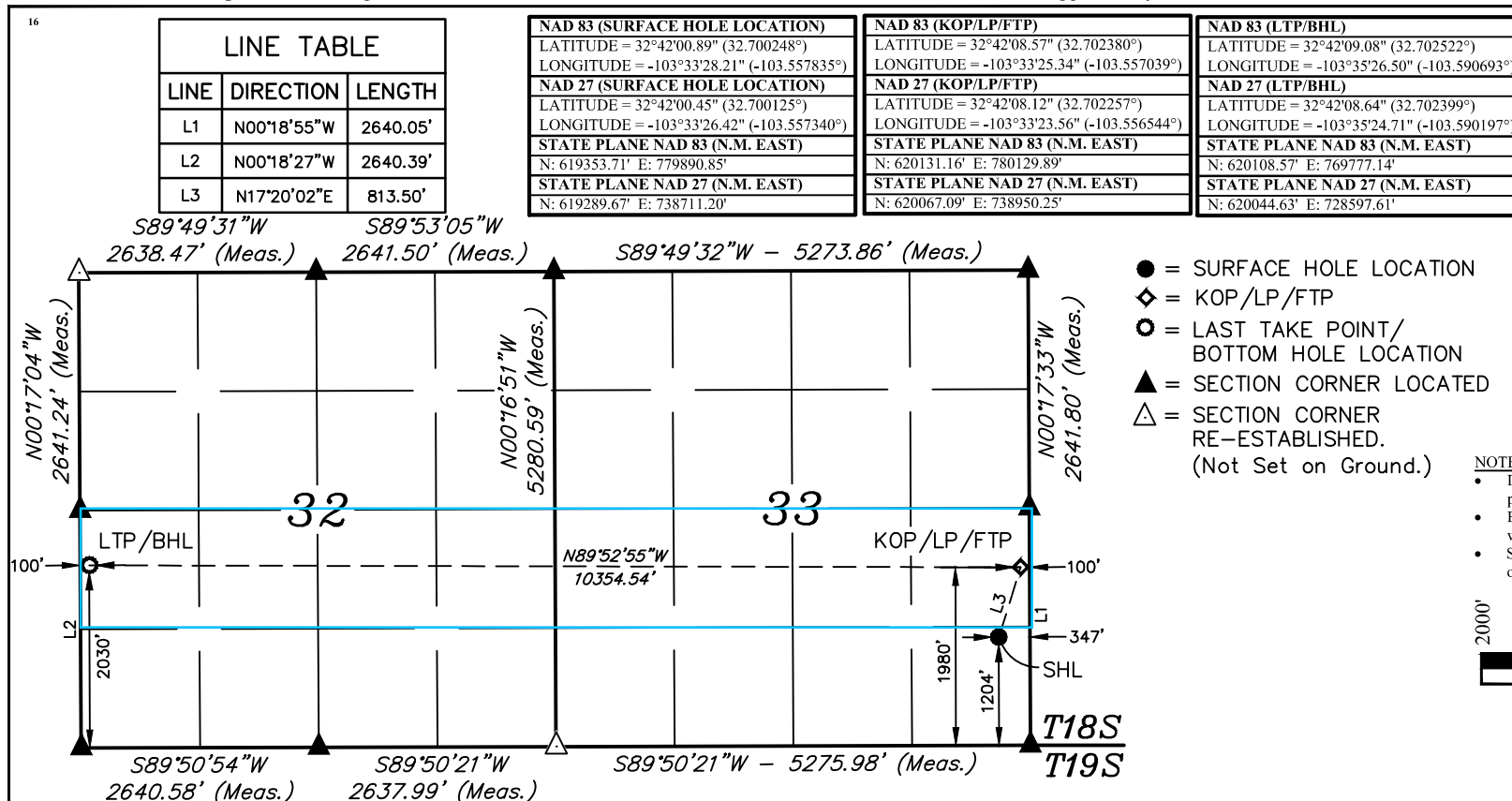
<sup>10</sup> Surface Location

| UL or lot no.<br>P | Section<br>33 | Township<br>18S | Range<br>34E | Lot Idn | Feet from the<br>1204 | North/South line<br>SOUTH | Feet from the<br>347 | East/West line<br>EAST | County<br>LEA |
|--------------------|---------------|-----------------|--------------|---------|-----------------------|---------------------------|----------------------|------------------------|---------------|
|--------------------|---------------|-----------------|--------------|---------|-----------------------|---------------------------|----------------------|------------------------|---------------|

<sup>11</sup> Bottom Hole Location If Different From Surface

| UL or lot no.<br>L                   | Section<br>32                 | Township<br>18S                  | Range<br>34E            | Lot Idn | Feet from the<br>2030 | North/South line<br>SOUTH | Feet from the<br>100 | East/West line<br>WEST | County<br>LEA |
|--------------------------------------|-------------------------------|----------------------------------|-------------------------|---------|-----------------------|---------------------------|----------------------|------------------------|---------------|
| <sup>12</sup> Dedicated Acres<br>320 | <sup>13</sup> Joint or Infill | <sup>14</sup> Consolidation Code | <sup>15</sup> Order No. |         |                       |                           |                      |                        |               |

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



**17 OPERATOR  
 CERTIFICATION**

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Shelly Bowen 6/6/24  
 Signature Date

Shelly Bowen

Printed Name

shelly.bowen@coterra.com

E-mail Address

**18 SURVEYOR  
 CERTIFICATION**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

DECEMBER 7, 2023

Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number:

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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

Form APD Conditions  
Permit 366949

PERMIT CONDITIONS OF APPROVAL

|                                                                                                                   |                                         |
|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Operator Name and Address:<br>CIMAREX ENERGY CO. OF COLORADO [162683]<br>6001 Deauville Blvd<br>Midland, TX 79706 | API Number:<br>30-025-53155             |
|                                                                                                                   | Well:<br>TURNPIKE 33 32 STATE COM #212H |

|                 |                                                                                                                                                                                                                                                                      |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OCD<br>Reviewer | Condition                                                                                                                                                                                                                                                            |
| pkautz          | Notify OCD 24 hours prior to casing & cement                                                                                                                                                                                                                         |
| pkautz          | Will require a File As Drilled C-102 and a Directional Survey with the C-104                                                                                                                                                                                         |
| pkautz          | Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string |
| pkautz          | Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system                  |
| pkautz          | Cement is required to circulate on both surface and intermediate1 strings of casing                                                                                                                                                                                  |
| pkautz          | If cement does not circulate on any string, a CBL is required for that string of casing                                                                                                                                                                              |
| pkautz          | The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud                                                                                                                                                                   |





COTERRA

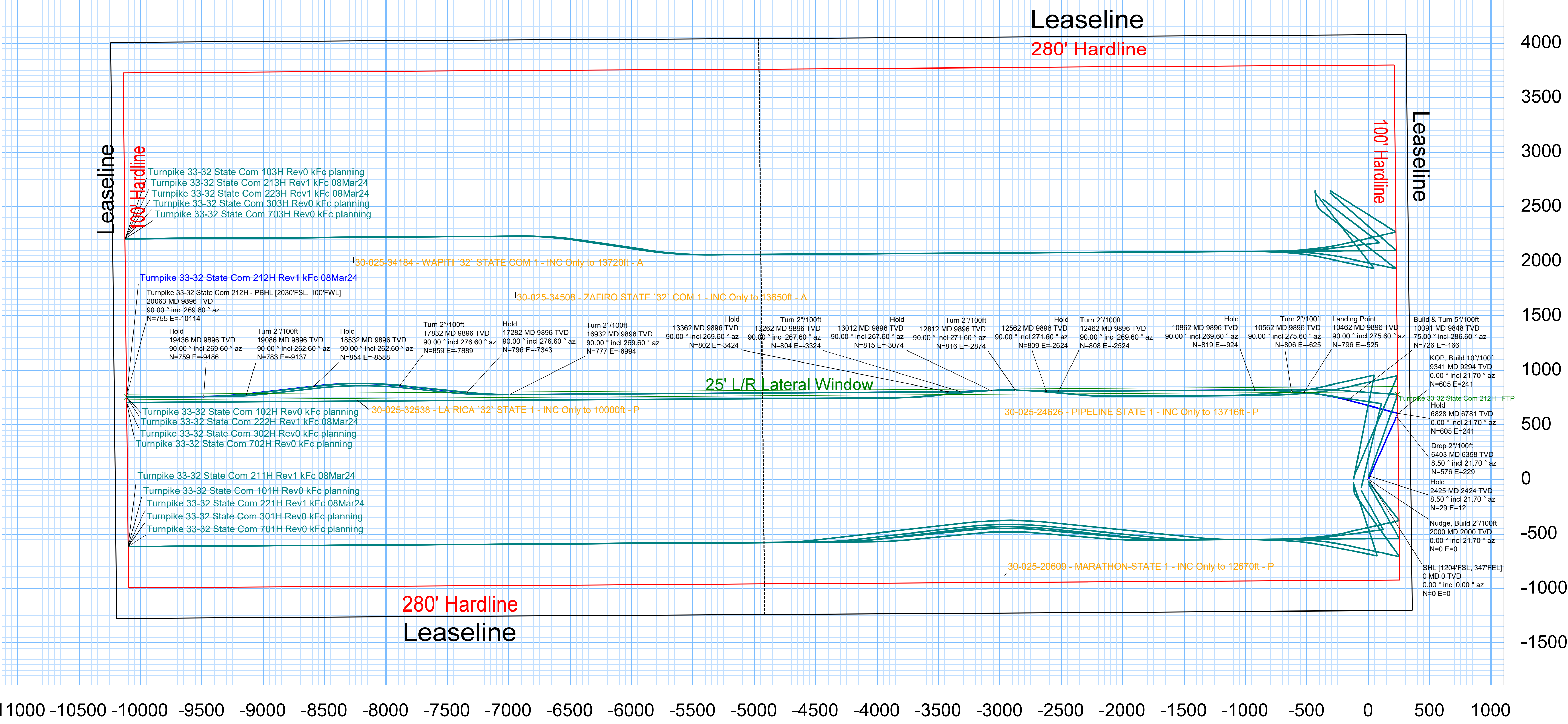
Rev1



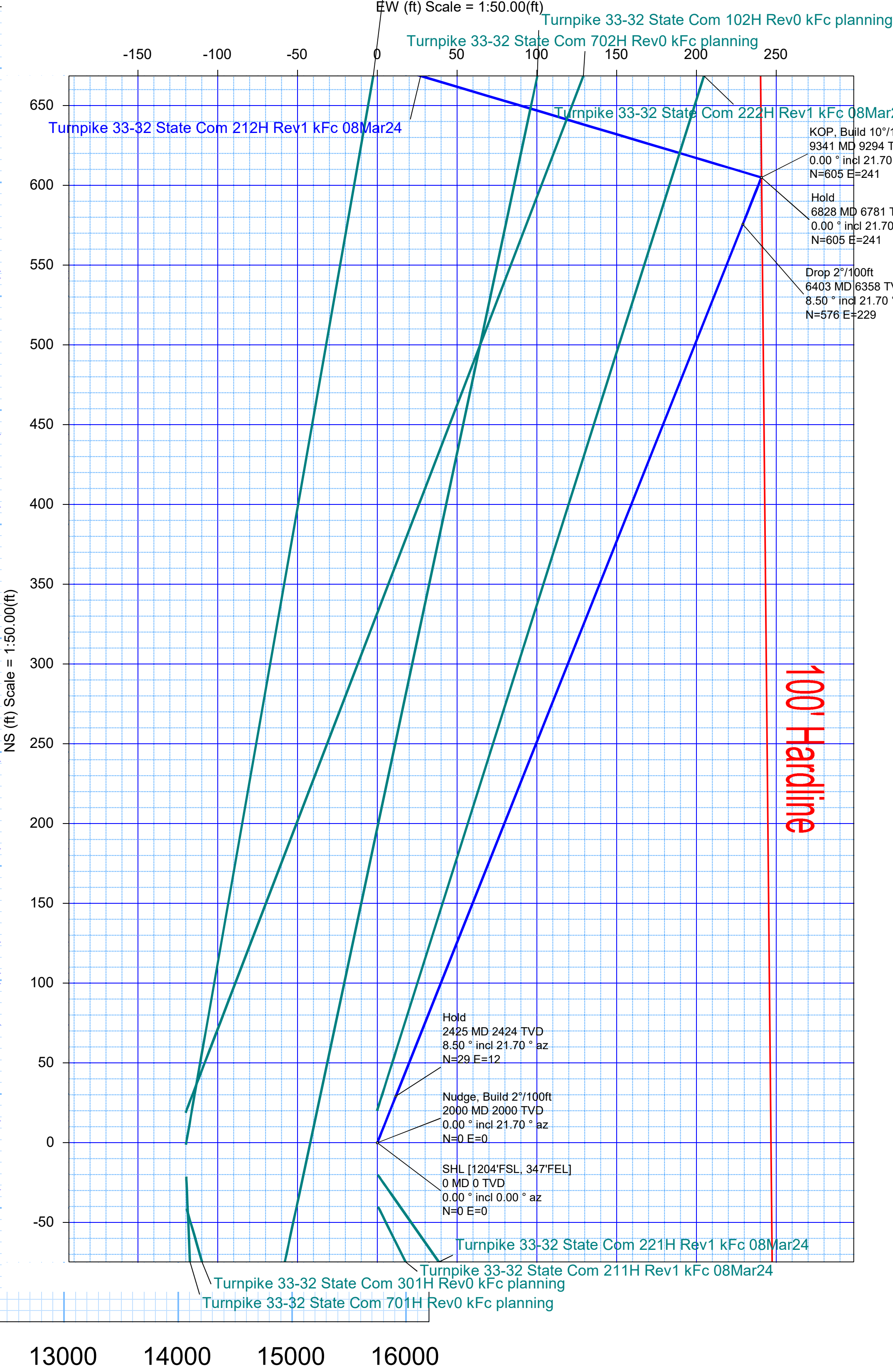
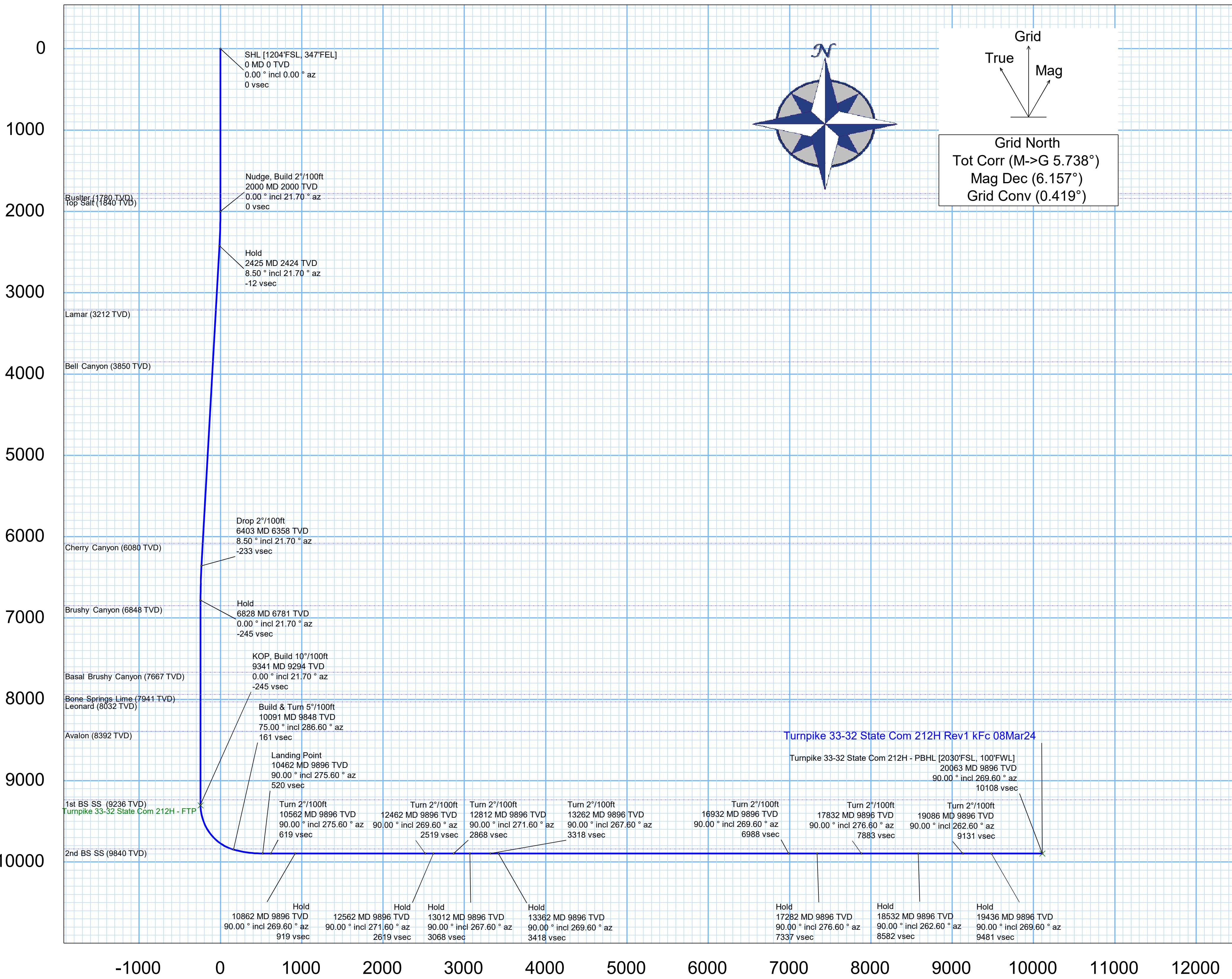
|                                            |           |                                        |             |                                                     |                            |                                                             |                               |
|--------------------------------------------|-----------|----------------------------------------|-------------|-----------------------------------------------------|----------------------------|-------------------------------------------------------------|-------------------------------|
| Borehole:<br>Turnpike 33-32 State Com 212H |           | Well:<br>Turnpike 33-32 State Com 212H |             | Field:<br>NM Lea County (NAD 83)                    |                            | Structure:<br>Coterra Turnpike 33-32 State Com Pads (south) |                               |
| Gravity & Magnetic Parameters              |           | Surface Location                       |             | NAD83 New Mexico State Plane, Eastern Zone, US Feet |                            | Miscellaneous                                               |                               |
| Model:                                     | HDGM 2024 | Dip:                                   | 60.497°     | Date:                                               | 08-Mar-2024                | Slot:                                                       | Turnpike 33-32 State Com 212H |
| MagDec:                                    | 6.157°    | FS:                                    | 47570.409nT | Gravity FS:                                         | 998.498mgn (9.80665 Based) | TVD Ref:                                                    | RKB (4023.500 ft above MSL)   |
|                                            |           | Lat: N 32 42 0.89                      |             | Northing: 619353.71RUS                              |                            | Plan:                                                       |                               |
|                                            |           | Lon: W 103 33 28.21                    |             | Easting: 778990.85RUS                               |                            | Turnpike 33-32 State Com 212H Rev1 kFc 08Mar24              |                               |
|                                            |           |                                        |             | Grid Conv: 0.419°                                   |                            |                                                             |                               |
|                                            |           |                                        |             | Scale Fact: 0.99997426                              |                            |                                                             |                               |

| Critical Point                                           | MD       | INCL  | AZIM   | TVD     | VSEC     | N(+)/S(-) | E(+)/W(-) | DLS   |
|----------------------------------------------------------|----------|-------|--------|---------|----------|-----------|-----------|-------|
| SHL [1204°FSL, 347°FEL]                                  | 0.00     | 0.00  | 0.00   | 0.00    | 0.00     | 0.00      | 0.00      | 0.00  |
| Rusler                                                   | 1780.00  | 0.00  | 21.70  | 1780.00 | 0.00     | 0.00      | 0.00      | 0.00  |
| Top Salt                                                 | 1840.00  | 0.00  | 21.70  | 1840.00 | 0.00     | 0.00      | 0.00      | 0.00  |
| Nudge, Build 2°/100ft                                    | 2000.00  | 0.00  | 21.70  | 2000.00 | 0.00     | 0.00      | 0.00      | 0.00  |
| Hold                                                     | 2425.14  | 8.50  | 21.70  | 2423.59 | -11.84   | 29.26     | 11.64     | 2.00  |
| Lamar                                                    | 3222.32  | 8.50  | 21.70  | 3212.00 | -56.18   | 138.78    | 55.21     | 0.00  |
| Bell Canyon                                              | 3867.41  | 8.50  | 21.70  | 3850.00 | -92.06   | 227.40    | 90.47     | 0.00  |
| Cherry Canyon                                            | 6122.20  | 8.50  | 21.70  | 6080.00 | -217.46  | 537.18    | 213.72    | 0.00  |
| Drop 2°/100ft                                            | 6402.88  | 8.50  | 21.70  | 6357.60 | -233.07  | 575.74    | 229.06    | 0.00  |
| Hold                                                     | 6828.03  | 0.00  | 21.70  | 6781.19 | -244.92  | 605.00    | 240.70    | 2.00  |
| Brushy Canyon                                            | 6894.84  | 0.00  | 21.70  | 6848.00 | -244.92  | 605.00    | 240.70    | 0.00  |
| Basal Brushy Canyon                                      | 7713.84  | 0.00  | 21.70  | 7667.00 | -244.92  | 605.00    | 240.70    | 0.00  |
| Bone Springs Lime                                        | 7987.84  | 0.00  | 21.70  | 7941.00 | -244.92  | 605.00    | 240.70    | 0.00  |
| Leonard                                                  | 8078.84  | 0.00  | 21.70  | 8032.00 | -244.92  | 605.00    | 240.70    | 0.00  |
| Avalon                                                   | 8438.84  | 0.00  | 21.70  | 8392.00 | -244.92  | 605.00    | 240.70    | 0.00  |
| 1st BS SS                                                | 9282.84  | 0.00  | 21.70  | 9236.00 | -244.92  | 605.00    | 240.70    | 0.00  |
| KOP, Build 10°/100ft                                     | 9341.03  | 0.00  | 21.70  | 9294.19 | -244.92  | 605.00    | 240.70    | 0.00  |
| 2nd BS SS                                                | 10063.95 | 72.29 | 286.60 | 9840.00 | 136.34   | 718.90    | -141.37   | 10.00 |
| Build & Turn 5°/100ft                                    | 10091.03 | 75.00 | 286.60 | 9847.62 | 161.19   | 726.32    | -166.27   | 10.00 |
| Landing Point                                            | 10461.55 | 90.00 | 275.60 | 9896.00 | 519.70   | 796.13    | -525.27   | 5.00  |
| Turn 2°/100ft                                            | 10561.55 | 90.00 | 275.60 | 9896.00 | 619.15   | 805.89    | -624.79   | 0.00  |
| Hold                                                     | 10861.55 | 90.00 | 269.60 | 9896.00 | 619.15   | 819.49    | -924.34   | 2.00  |
| Turn 2°/100ft                                            | 12461.55 | 90.00 | 269.60 | 9896.00 | 2518.60  | 808.32    | -2524.30  | 0.00  |
| Hold                                                     | 12561.55 | 90.00 | 271.60 | 9896.00 | 2618.58  | 809.37    | -2624.29  | 2.00  |
| Turn 2°/100ft                                            | 12811.55 | 90.00 | 271.60 | 9896.00 | 2868.43  | 816.35    | -2874.20  | 0.00  |
| Hold                                                     | 13011.55 | 90.00 | 267.60 | 9896.00 | 3068.39  | 814.96    | -3074.15  | 2.00  |
| Turn 2°/100ft                                            | 13261.55 | 90.00 | 267.60 | 9896.00 | 3318.23  | 804.49    | -3323.93  | 0.00  |
| Hold                                                     | 13361.55 | 90.00 | 269.60 | 9896.00 | 3418.21  | 802.04    | -3423.90  | 2.00  |
| Turn 2°/100ft                                            | 16931.55 | 90.00 | 269.60 | 9896.00 | 6988.21  | 777.12    | -6993.81  | 0.00  |
| Hold                                                     | 17281.55 | 90.00 | 276.60 | 9896.00 | 7337.34  | 796.04    | -7343.08  | 2.00  |
| Turn 2°/100ft                                            | 17831.55 | 90.00 | 276.60 | 9896.00 | 7883.24  | 859.25    | -7889.44  | 0.00  |
| Hold                                                     | 18531.55 | 90.00 | 262.60 | 9896.00 | 8581.50  | 854.38    | -8587.68  | 2.00  |
| Turn 2°/100ft                                            | 19085.55 | 90.00 | 262.60 | 9896.00 | 9131.38  | 783.02    | -9137.06  | 0.00  |
| Hold                                                     | 19435.76 | 90.00 | 269.60 | 9896.00 | 9480.72  | 759.23    | -9486.25  | 2.00  |
| Turnpike 33-32 State Com 212H - PBHL [2030°FSL, 100°FWL] | 20063.04 | 90.00 | 269.60 | 9690.00 | 10107.99 | 754.90    | -10113.51 | 0.00  |

NS (ft) Scale = 1:450.00(ft)



TVD (ft) Scale = 1:700.00(ft)



Vertical Section (ft) Azim = 269.60° Scale = 1:700.00(ft) Origin = 0N/-S, 0E/-W



Schlumberger

## Turnpike 33-32 State Com 212H Rev1 kFc 08Mar24 Proposal Geodetic Report

## Def Plan

**Report Date:** March 07, 2024 - 07:17 PM ( UTC 0 )  
**Client:** COTERRA  
**Field:** NM Lea County (NAD 83)  
**Structure / Slot:** Coterra Turnpike 33-32 State Com Pads (south) / Turnpike 33-32 State  
**Well:** Turnpike 33-32 State Com 212H  
**Borehole:** Turnpike 33-32 State Com 212H  
**UBH1 / API#:** Unknown / Unknown  
**Survey Name:** Turnpike 33-32 State Com 212H Rev1 kFc 08Mar24  
**Survey Date:** March 07, 2024  
**Tort / AHD / DDI / ERD Ratio:** 152.536 " / 11043.561 ft / 6.533 / 1.116  
**Coordinate Reference System:** NAD83 New Mexico State Plane, Eastern Zone, US Feet  
**Location Lat / Long:** 32°42'0.8925"N, 103°33'28.2058"W  
**Location Grid N/E Y/X:** N 819353.710 RJUS , E 779890.850 RJUS  
**CRS Grid Convergence Angle:** 0.419"  
**Grid Scale Factor:** 0.99997426  
**Version / Patch:** 2023.1.0.1

**Survey / DLS Computation:** Minimum Curvature / Lubinski  
**Vertical Section Azimuth:** 269.600 °(GRID North)  
**Vertical Section Origin:** 0.000 ft, 0.000 ft  
**TVD Reference Datum:** RKB  
**TVD Reference Elevation:** 4023.500 ft above MSL  
**Sealed / Ground Elevation:** 4000.500 ft above MSL  
**Magnetic Declination:** 6.157°  
**Total Gravity Field Strength:** 998.4984mgn (9.80665 Based)  
**Gravity Model:** GARM  
**Total Magnetic Field Strength:** 47570.409 nT  
**Magnetic Dip Angle:** 60.497°  
**Declination Date:** March 08, 2024  
**Magnetic Declination Model:** HDGM 2024  
**North Reference:** Grid North  
**Grid Convergence Used:** 0.419"  
**Total Corr Mag North->Grid North:** 5.738"  
**Local Coord Referenced To:** Well Head

| Comments              | MD<br>(ft) | Incl<br>(°) | Azim<br>(°) | TVD<br>(ft) | TVDSS<br>(ft) | VSECC<br>(ft) | NS<br>(ft) | EW<br>(ft) | Northing<br>(RUS) | Easting<br>(RUS) | Latitude<br>(°) | Longitude<br>(°) | DLS<br>(°/100ft) | BR<br>(°/100ft) | TR<br>(°/100ft) |
|-----------------------|------------|-------------|-------------|-------------|---------------|---------------|------------|------------|-------------------|------------------|-----------------|------------------|------------------|-----------------|-----------------|
| SHL [1204FSL, 347FEL] | 0.00       | 0.00        | 0.00        | 0.00        | -4.023.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    |                  |                 |                 |
|                       | 100.00     | 0.00        | 21.70       | 100.00      | -3.923.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 200.00     | 0.00        | 21.70       | 200.00      | -3.823.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 300.00     | 0.00        | 21.70       | 300.00      | -3.723.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 400.00     | 0.00        | 21.70       | 400.00      | -3.623.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 500.00     | 0.00        | 21.70       | 500.00      | -3.523.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 600.00     | 0.00        | 21.70       | 600.00      | -3.423.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 700.00     | 0.00        | 21.70       | 700.00      | -3.323.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 800.00     | 0.00        | 21.70       | 800.00      | -3.223.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 900.00     | 0.00        | 21.70       | 900.00      | -3.123.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 1,000.00   | 0.00        | 21.70       | 1,000.00    | -3.023.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 1,100.00   | 0.00        | 21.70       | 1,100.00    | -2.923.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 1,200.00   | 0.00        | 21.70       | 1,200.00    | -2.823.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 1,300.00   | 0.00        | 21.70       | 1,300.00    | -2.723.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 1,400.00   | 0.00        | 21.70       | 1,400.00    | -2.623.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 1,500.00   | 0.00        | 21.70       | 1,500.00    | -2.523.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 1,600.00   | 0.00        | 21.70       | 1,600.00    | -2.423.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 1,700.00   | 0.00        | 21.70       | 1,700.00    | -2.323.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
| Rustler               | 1,780.00   | 0.00        | 21.70       | 1,780.00    | -2.243.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 1,800.00   | 0.00        | 21.70       | 1,800.00    | -2.223.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
| Top Salt              | 1,840.00   | 0.00        | 21.70       | 1,840.00    | -2.183.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 1,900.00   | 0.00        | 21.70       | 1,900.00    | -2.123.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
| Nudge, Build 2°/100ft | 2,000.00   | 0.00        | 21.70       | 2,000.00    | -2.023.50     | 0.00          | 0.00       | 0.00       | 619.353.71        | 779.890.85       | 32.70024794     | -103.55783496    | 0.00             | 0.00            | 0.00            |
|                       | 2,100.00   | 2.00        | 21.70       | 2,099.98    | -1.923.52     | -0.66         | 1.62       | 0.65       | 619.355.33        | 779.891.50       | 32.70025238     | -103.55783282    | 2.00             | 2.00            | 0.00            |
|                       | 2,200.00   | 4.00        | 21.70       | 2,199.84    | -1.823.56     | -2.62         | 6.48       | 2.58       | 619.360.19        | 779.893.43       | 32.70026571     | -103.55782642    | 2.00             | 2.00            | 0.00            |
|                       | 2,300.00   | 6.00        | 21.70       | 2,299.45    | -1.724.05     | -5.90         | 14.58      | 5.80       | 619.368.29        | 779.896.65       | 32.70028790     | -103.55781575    | 2.00             | 2.00            | 0.00            |
|                       | 2,400.00   | 8.00        | 21.70       | 2,398.70    | -1.624.80     | -10.49        | 25.91      | 10.31      | 619.379.61        | 779.901.16       | 32.70031893     | -103.55780084    | 2.00             | 2.00            | 0.00            |
| Hold                  | 2,425.14   | 8.50        | 21.70       | 2,423.59    | -1.599.91     | -11.84        | 29.26      | 11.64      | 619.382.97        | 779.902.49       | 32.70032812     | -103.55779642    | 2.00             | 2.00            | 0.00            |
|                       | 2,500.00   | 8.50        | 21.70       | 2,497.62    | -1.525.88     | -16.01        | 39.54      | 15.73      | 619.393.25        | 779.906.58       | 32.70035630     | -103.55778288    | 0.00             | 0.00            | 0.00            |
|                       | 2,600.00   | 8.50        | 21.70       | 2,596.52    | -1.426.98     | -21.57        | 53.28      | 21.20      | 619.406.99        | 779.912.05       | 32.70039395     | -103.55776479    | 0.00             | 0.00            | 0.00            |
|                       | 2,700.00   | 8.50        | 21.70       | 2,695.42    | -1.328.08     | -27.13        | 67.02      | 26.66      | 619.420.73        | 779.917.51       | 32.70043160     | -103.55774669    | 0.00             | 0.00            | 0.00            |
|                       | 2,800.00   | 8.50        | 21.70       | 2,794.32    | -1.229.18     | -32.99        | 80.76      | 32.13      | 619.434.47        | 779.922.98       | 32.70046925     | -103.55772860    | 0.00             | 0.00            | 0.00            |
|                       | 2,900.00   | 8.50        | 21.70       | 2,893.22    | -1.130.28     | -38.25        | 94.50      | 37.60      | 619.448.20        | 779.928.44       | 32.70050589     | -103.55771051    | 0.00             | 0.00            | 0.00            |
|                       | 3,000.00   | 8.50        | 21.70       | 2,992.12    | -1.031.38     | -43.82        | 108.23     | 43.06      | 619.461.94        | 779.933.91       | 32.70054454     | -103.55769241    | 0.00             | 0.00            | 0.00            |
|                       | 3,100.00   | 8.50        | 21.70       | 3,091.02    | -932.48       | -49.38        | 121.97     | 48.53      | 619.475.68        | 779.939.38       | 32.70058219     | -103.55767432    | 0.00             | 0.00            | 0.00            |
|                       | 3,200.00   | 8.50        | 21.70       | 3,189.92    | -833.58       | -54.94        | 135.71     | 53.99      | 619.489.42        | 779.944.84       | 32.70061984     | -103.55765623    | 0.00             | 0.00            | 0.00            |
| Lamar                 | 3,222.32   | 8.50        | 21.70       | 3,212.00    | -811.50       | -56.18        | 138.78     | 55.21      | 619.492.48        | 779.946.06       | 32.70062824     | -103.55765219    | 0.00             | 0.00            | 0.00            |
|                       | 3,300.00   | 8.50        | 21.70       | 3,288.83    | -734.67       | -60.50        | 149.45     | 59.46      | 619.503.16        | 779.950.31       | 32.70065749     | -103.55763813    | 0.00             | 0.00            | 0.00            |
|                       | 3,400.00   | 8.50        | 21.70       | 3,387.73    | -635.77       | -66.06        | 163.19     | 64.92      | 619.516.89        | 779.955.77       | 32.70069514     | -103.55762004    | 0.00             | 0.00            | 0.00            |
|                       | 3,500.00   | 8.50        | 21.70       | 3,486.63    | -536.87       | -71.62        | 176.93     | 70.39      | 619.530.63        | 779.961.24       | 32.70073279     | -103.55760194    | 0.00             | 0.00            | 0.00            |
|                       | 3,600.00   | 8.50        | 21.70       | 3,585.53    | -437.97       | -77.19        | 190.67     | 75.86      | 619.544.37        | 779.966.70       | 32.70077044     | -103.55758385    | 0.00             | 0.00            | 0.00            |
|                       | 3,700.00   | 8.50        | 21.70       | 3,684.43    | -339.07       | -82.75        | 204.40     | 81.32      | 619.558.11        | 779.972.17       | 32.70080808     | -103.55756576    | 0.00             | 0.00            | 0.00            |
| Bell Canyon           | 3,800.00   | 8.50        | 21.70       | 3,783.33    | -240.17       | -88.31        | 218.14     | 86.79      | 619.571.85        | 779.977.64       | 32.70084573     | -103.55754766    | 0.00             | 0.00            | 0.00            |
|                       | 3,867.41   | 8.50        | 21.70       | 3,850.00    | -173.50       | -92.06        | 227.40     | 90.47      | 619.581.11        | 779.981.32       | 32.70087111     | -103.55753547    | 0.00             | 0.00            | 0.00            |
|                       | 3,900.00   | 8.50        | 21.70       | 3,882.23    | -141.27       | -93.87        | 231.88     | 92.25      | 619.585.59        | 779.983.10       | 32.70088338     | -103.55752957    | 0.00             | 0.00            | 0.00            |
|                       | 4,000.00   | 8.50        | 21.70       | 3,991.13    | -42.37        | -97.32        | 245.63     | 97.32      | 619.598.52        | 779.998.52       | 32.70092103     | -103.55751144    | 0.00             | 0.00            | 0.00            |
|                       | 4,100.00   | 8.50        | 21.70       | 4,080.03    | 56.53         | -104.99       | 259.36     | 103.19     | 619.613.06        | 779.994.03       | 32.70095868     | -103.55749338    | 0.00             | 0.00            | 0.00            |
|                       | 4,200.00   | 8.50        | 21.70       | 4,178.93    | 155.43        | -110.56       | 273.10     | 108.65     | 619.628.80        | 779.999.50       | 32.70099633     | -103.55747529    | 0.00             | 0.00            | 0.00            |
|                       | 4,300.00   | 8.50        | 21.70       | 4,277.83    | 254.33        | -116.12       | 286.84     | 114.12     | 619.640.54        | 780.004.96       | 32.70103396     | -103.55745720    | 0.00             | 0.00            | 0.00            |
|                       | 4,400.00   | 8.50        | 21.70       | 4,376.73    | 353.23        | -121.68       | 300.57     | 119.58     | 619.654.28        | 780.010.43       | 32.70107162     | -103.55743910    | 0.00             | 0.00            | 0.00            |
|                       | 4,500.00   | 8.50        | 21.70       | 4,475.64    | 452.14        | -127.24       | 314.31     | 125.05     | 619.668.01        | 780.015.90       | 32.70110927     | -103.55742101    | 0.00             | 0.00            | 0.00            |
|                       | 4,600.00   | 8.50        | 21.70       | 4,574.54    | 551.04        | -132.80       | 328.05     | 130.52     | 619.681.75        | 780.021.36       | 32.70114692     | -103.55740291    | 0.00             | 0.00            | 0.00            |
|                       | 4,700.00   | 8.50        | 21.70       | 4,673.44    | 649.94        | -138.36       | 341.79     | 135.98     | 619.695.49        | 780.026.83       | 32.70118457     | -103.55738482    | 0.00             | 0.00            | 0.00            |
|                       | 4,800.00   | 8.50        | 21.70       | 4,772.34    | 748.84        | -143.93       | 355.53     | 141.45     | 619.709.23        | 780.032.28       | 32.70122222     | -103.55736673    | 0.00             | 0.00            | 0.00            |
|                       | 4,900.00   | 8.50        | 21.70       | 4,871.24    | 847.74        | -149.49       | 369.27     | 146.91     | 619.722.97        | 780.037.76       | 32.70125987     | -103.55734863    | 0.00             | 0.00            | 0.00            |
|                       | 5,000.00   | 8.50        | 21.70       | 4,970.14    | 946.64        | -155.05       | 383.01     | 152.38     | 619.736.71        | 780.043.23       | 32.70129752     | -103.55733054    | 0.00             | 0.00            | 0.00            |
|                       | 5,100.00   | 8.50        | 21.70       | 5,069.04    | 1,045.54      | -160.61       | 396.74     | 157.85     | 619.750.44        | 780.048.69       | 32.70133517     | -103.55731245    | 0.00             | 0.00            | 0.00            |
|                       | 5,200.00   | 8.50        | 21.70       | 5,167.94    | 1,144.44      | -166.17       | 410.48     | 163.31     | 619.764.18        | 780.054.16       | 32.70137281     | -103.55729435    | 0.00             | 0.00            | 0.00            |
|                       | 5,300.00   | 8.50        | 21.70       | 5,266.84    | 1,243.34      | -171.73       | 424.22     | 168.78     | 619.777.92        | 780.059.62       | 32.70141046     | -103.55727626    | 0.00             | 0.00            | 0.00            |
|                       | 5,400.00   | 8.50        |             |             |               |               |            |            |                   |                  |                 |                  |                  |                 |                 |

| Comments                             | MD<br>(ft) | Incl<br>(°) | Azim<br>(°) | TVD<br>(ft) | TVSS<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | Northing<br>(RUS) | Easting<br>(RUS) | Latitude<br>(°) | Longitude<br>(°) | DLS<br>("100ft) | BR<br>("100ft) | TR<br>("100ft) |
|--------------------------------------|------------|-------------|-------------|-------------|--------------|--------------|------------|------------|-------------------|------------------|-----------------|------------------|-----------------|----------------|----------------|
| 1st BS SS □<br>KOP, Build 10"/100ft  | 9,000.00   | 0.00        | 21.70       | 8,953.16    | 4,929.66     | -244.92      | 605.00     | 240.70     | 619,958.69        | 780,131.54       | 32.70190586     | -103.55703817    | 0.00            | 0.00           | 0.00           |
|                                      | 9,100.00   | 0.00        | 21.70       | 9,053.16    | 5,029.66     | -244.92      | 605.00     | 240.70     | 619,958.69        | 780,131.54       | 32.70190586     | -103.55703817    | 0.00            | 0.00           | 0.00           |
|                                      | 9,200.00   | 0.00        | 21.70       | 9,153.16    | 5,129.66     | -244.92      | 605.00     | 240.70     | 619,958.69        | 780,131.54       | 32.70190586     | -103.55703817    | 0.00            | 0.00           | 0.00           |
|                                      | 9,282.84   | 0.00        | 21.70       | 9,236.00    | 5,212.50     | -244.92      | 605.00     | 240.70     | 619,958.69        | 780,131.54       | 32.70190586     | -103.55703817    | 0.00            | 0.00           | 0.00           |
|                                      | 9,300.00   | 0.00        | 21.70       | 9,253.16    | 5,229.66     | -244.92      | 605.00     | 240.70     | 619,958.69        | 780,131.54       | 32.70190586     | -103.55703817    | 0.00            | 0.00           | 0.00           |
|                                      | 9,341.03   | 0.00        | 21.70       | 9,294.19    | 5,270.69     | -244.92      | 605.00     | 240.70     | 619,958.69        | 780,131.54       | 32.70190586     | -103.55703817    | 0.00            | 0.00           | 0.00           |
|                                      | 9,400.00   | 5.90        | 286.60      | 9,353.06    | 5,329.56     | -242.02      | 606.87     | 237.79     | 619,959.56        | 780,128.61       | 32.70190830     | -103.55704759    | 10.00           | 0.00           | 0.00           |
|                                      | 9,500.00   | 15.90       | 286.60      | 9,451.13    | 5,427.63     | -223.96      | 611.26     | 219.70     | 619,964.95        | 780,110.54       | 32.70192349     | -103.55710628    | 10.00           | 10.00          | 0.00           |
|                                      | 9,600.00   | 25.90       | 286.60      | 9,544.43    | 5,520.93     | -189.90      | 621.44     | 185.56     | 619,975.13        | 780,076.41       | 32.70195215     | -103.55721701    | 10.00           | 10.00          | 0.00           |
|                                      | 9,700.00   | 35.90       | 286.60      | 9,630.13    | 5,606.63     | -140.85      | 636.09     | 136.41     | 619,989.78        | 780,027.26       | 32.70199340     | -103.55737641    | 10.00           | 10.00          | 0.00           |
| 2nd BS SS □<br>Build & Turn 5"/100ft | 9,800.00   | 45.90       | 286.60      | 9,705.63    | 5,682.13     | -78.32       | 654.77     | 73.75      | 620,008.46        | 779,964.60       | 32.70204600     | -103.55757966    | 10.00           | 10.00          | 0.00           |
|                                      | 9,900.00   | 55.90       | 286.60      | 9,768.62    | 5,745.12     | -4.21        | 676.91     | -0.52      | 620,030.60        | 779,890.33       | 32.70210835     | -103.55782056    | 10.00           | 10.00          | 0.00           |
|                                      | 10,000.00  | 65.90       | 286.60      | 9,817.19    | 5,793.69     | 79.25        | 701.84     | -84.15     | 620,055.53        | 779,806.71       | 32.70217855     | -103.55809180    | 10.00           | 10.00          | 0.00           |
|                                      | 10,063.95  | 72.29       | 286.60      | 9,840.00    | 5,815.50     | 156.34       | 718.90     | -141.37    | 620,072.59        | 779,749.49       | 32.70222659     | -103.55827159    | 10.00           | 10.00          | 0.00           |
|                                      | 10,091.03  | 75.00       | 286.60      | 9,847.62    | 5,824.12     | 161.19       | 726.32     | -166.27    | 620,080.01        | 779,724.59       | 32.70224748     | -103.55835815    | 10.00           | 10.00          | 0.00           |
|                                      | 10,100.00  | 75.36       | 286.32      | 9,849.92    | 5,826.42     | 169.49       | 728.78     | -174.58    | 620,082.47        | 779,716.27       | 32.70225440     | -103.55838513    | 5.00            | 4.00           | -3.10          |
|                                      | 10,200.00  | 79.38       | 283.27      | 9,871.79    | 5,848.29     | 263.63       | 753.67     | -268.90    | 620,107.36        | 779,621.96       | 32.70232472     | -103.55869112    | 5.00            | 4.02           | -3.05          |
|                                      | 10,300.00  | 83.43       | 280.31      | 9,886.74    | 5,863.24     | 360.25       | 773.86     | -365.66    | 620,127.55        | 779,525.20       | 32.70238213     | -103.55900517    | 5.00            | 4.05           | -2.97          |
|                                      | 10,400.00  | 87.49       | 277.39      | 9,894.65    | 5,871.15     | 458.61       | 789.18     | -464.13    | 620,142.86        | 779,426.73       | 32.70242620     | -103.55932489    | 5.00            | 4.07           | -2.92          |
|                                      | 10,461.55  | 90.00       | 275.60      | 9,896.00    | 5,872.50     | 519.70       | 796.13     | -525.27    | 620,149.82        | 779,365.60       | 32.70244655     | -103.55952345    | 5.00            | 4.07           | -2.90          |
| Turn 2"/100ft                        | 10,500.00  | 90.00       | 275.60      | 9,896.00    | 5,872.50     | 557.83       | 799.88     | -563.53    | 620,153.57        | 779,327.33       | 32.70245763     | -103.55964774    | 0.00            | 0.00           | 0.00           |
|                                      | 10,561.55  | 90.00       | 275.60      | 9,896.00    | 5,872.50     | 619.15       | 805.89     | -624.79    | 620,159.58        | 779,266.08       | 32.70247537     | -103.55984672    | 0.00            | 0.00           | 0.00           |
|                                      | 10,600.00  | 90.00       | 274.83      | 9,896.00    | 5,872.50     | 657.41       | 809.39     | -663.08    | 620,163.07        | 779,227.79       | 32.70248574     | -103.55997110    | 2.00            | 0.00           | -2.00          |
|                                      | 10,700.00  | 90.00       | 272.83      | 9,896.00    | 5,872.50     | 757.13       | 816.07     | -762.85    | 620,169.75        | 779,128.02       | 32.70250610     | -103.56029526    | 2.00            | 0.00           | -2.00          |
|                                      | 10,800.00  | 90.00       | 270.83      | 9,896.00    | 5,872.50     | 857.05       | 819.26     | -862.79    | 620,172.95        | 779,028.08       | 32.70251689     | -103.56062006    | 2.00            | 0.00           | -2.00          |
|                                      | 10,861.55  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 918.60       | 819.49     | -924.34    | 620,173.18        | 778,966.53       | 32.70251875     | -103.56082012    | 2.00            | 0.00           | -2.00          |
|                                      | 10,900.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 957.05       | 819.23     | -962.79    | 620,172.91        | 778,928.09       | 32.70251879     | -103.56094511    | 0.00            | 0.00           | 0.00           |
|                                      | 11,000.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 1,057.05     | 816.53     | -1,062.79  | 620,172.21        | 778,828.09       | 32.70251887     | -103.56127017    | 0.00            | 0.00           | 0.00           |
|                                      | 11,100.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 1,157.05     | 817.83     | -1,162.79  | 620,171.52        | 778,728.10       | 32.70251895     | -103.56159524    | 0.00            | 0.00           | 0.00           |
|                                      | 11,200.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 1,257.05     | 817.13     | -1,262.78  | 620,170.82        | 778,628.10       | 32.70251903     | -103.56192031    | 0.00            | 0.00           | 0.00           |
| Hold                                 | 11,300.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 1,357.05     | 816.43     | -1,362.78  | 620,170.12        | 778,528.11       | 32.70251911     | -103.56224537    | 0.00            | 0.00           | 0.00           |
|                                      | 11,400.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 1,457.05     | 815.73     | -1,462.78  | 620,169.42        | 778,428.11       | 32.70251919     | -103.56257044    | 0.00            | 0.00           | 0.00           |
|                                      | 11,500.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 1,557.05     | 815.04     | -1,562.78  | 620,168.72        | 778,328.12       | 32.70251927     | -103.56289551    | 0.00            | 0.00           | 0.00           |
|                                      | 11,600.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 1,657.05     | 814.34     | -1,662.77  | 620,168.03        | 778,228.12       | 32.70251935     | -103.56322057    | 0.00            | 0.00           | 0.00           |
|                                      | 11,700.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 1,757.05     | 813.64     | -1,762.77  | 620,167.33        | 778,128.13       | 32.70251942     | -103.56354564    | 0.00            | 0.00           | 0.00           |
|                                      | 11,800.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 1,857.05     | 812.94     | -1,862.77  | 620,166.63        | 778,028.13       | 32.70251950     | -103.56387070    | 0.00            | 0.00           | 0.00           |
|                                      | 11,900.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 1,957.05     | 812.24     | -1,962.77  | 620,165.93        | 777,928.14       | 32.70251957     | -103.56419577    | 0.00            | 0.00           | 0.00           |
|                                      | 12,000.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 2,057.05     | 811.55     | -2,062.76  | 620,165.23        | 777,828.14       | 32.70251965     | -103.56452084    | 0.00            | 0.00           | 0.00           |
|                                      | 12,100.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 2,157.05     | 810.85     | -2,162.76  | 620,164.54        | 777,728.15       | 32.70251972     | -103.56484590    | 0.00            | 0.00           | 0.00           |
|                                      | 12,200.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 2,257.05     | 810.15     | -2,262.76  | 620,163.84        | 777,628.15       | 32.70251979     | -103.56517097    | 0.00            | 0.00           | 0.00           |
| Turn 2"/100ft                        | 12,300.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 2,357.05     | 809.45     | -2,362.76  | 620,163.14        | 777,528.16       | 32.70251987     | -103.56549604    | 0.00            | 0.00           | 0.00           |
|                                      | 12,400.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 2,457.05     | 808.75     | -2,462.75  | 620,162.44        | 777,428.16       | 32.70251994     | -103.56582110    | 0.00            | 0.00           | 0.00           |
|                                      | 12,461.55  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 2,518.60     | 808.32     | -2,524.30  | 620,162.01        | 777,366.62       | 32.70251998     | -103.56602119    | 0.00            | 0.00           | 0.00           |
|                                      | 12,500.00  | 90.00       | 270.37      | 9,896.00    | 5,872.50     | 2,557.05     | 808.31     | -2,562.75  | 620,162.00        | 777,328.17       | 32.70252072     | -103.56614617    | 2.00            | 0.00           | 2.00           |
|                                      | 12,561.55  | 90.00       | 271.60      | 9,896.00    | 5,872.50     | 2,618.58     | 809.37     | -2,624.29  | 620,163.06        | 777,266.63       | 32.70252485     | -103.56634618    | 2.00            | 0.00           | 2.00           |
|                                      | 12,600.00  | 90.00       | 271.60      | 9,896.00    | 5,872.50     | 2,657.01     | 810.44     | -2,662.73  | 620,164.13        | 777,228.20       | 32.70252856     | -103.56647109    | 0.00            | 0.00           | 0.00           |
|                                      | 12,700.00  | 90.00       | 271.60      | 9,896.00    | 5,872.50     | 2,756.94     | 813.24     | -2,762.69  | 620,166.92        | 777,128.24       | 32.70253822     | -103.56679596    | 0.00            | 0.00           | 0.00           |
|                                      | 12,800.00  | 90.00       | 271.60      | 9,896.00    | 5,872.50     | 2,856.88     | 816.03     | -2,862.65  | 620,169.72        | 777,028.28       | 32.70254788     | -103.56712082    | 0.00            | 0.00           | 0.00           |
|                                      | 12,811.55  | 90.00       | 271.60      | 9,896.00    | 5,872.50     | 2,868.43     | 816.35     | -2,874.20  | 620,170.04        | 777,016.73       | 32.70254900     | -103.56715835    | 0.00            | 0.00           | 0.00           |
|                                      | 12,900.00  | 90.00       | 269.60      | 9,896.00    | 5,872.50     | 2,968.86     | 817.46     | -2,962.63  | 620,171.14        | 776,928.30       | 32.70255379     | -103.56744580    | 0.00            | 0.00           | -2.00          |
| Hold                                 | 13,000.00  | 90.00       | 267.83      | 9,896.00    | 5,872.50     | 3,068.84     | 815.42     | -3,062.61  | 620,169.10        | 776,828.33       | 32.70255017     | -103.56777082    | 2.00            | 0.00           | -2.00          |
|                                      | 13,011.55  | 90.00       | 267.60      | 9,896.00    | 5,872.50     | 3,068.39     | 814.96     | -3,074.15  | 620,168.64        | 776,816.78       | 32.70254913     | -103.56780835    | 2.00            | 0.00           | -2.00          |
|                                      | 13,100.00  | 90.0.       |             |             |              |              |            |            |                   |                  |                 |                  |                 |                |                |

| Comments                      | MD<br>(ft)             | Incl<br>(°)    | Azim<br>(°)      | TVD<br>(ft)          | TVDSS<br>(ft)        | VSEC<br>(ft)           | NS<br>(ft)       | EW<br>(ft)               | Northing<br>(ftUS)       | Easting<br>(ftUS)        | Latitude<br>(°)            | Longitude<br>(°)               | DLS<br>(°/100ft) | BR<br>(°/100ft) | TR<br>(°/100ft) |
|-------------------------------|------------------------|----------------|------------------|----------------------|----------------------|------------------------|------------------|--------------------------|--------------------------|--------------------------|----------------------------|--------------------------------|------------------|-----------------|-----------------|
| Turnpike 33-32 State Com 212H | 20,000.00<br>20,063.04 | 90.00<br>90.00 | 269.60<br>269.60 | 9,896.00<br>9,896.00 | 5,872.50<br>5,872.50 | 10,044.95<br>10,107.99 | 755.33<br>754.90 | -10,050.47<br>-10,113.51 | 620,109.02<br>620,108.59 | 769,840.66<br>769,777.62 | 32.70252163<br>32.70252165 | -103.59048689<br>-103.59069181 | 0.00<br>0.00     | 0.00<br>0.00    | 0.00<br>0.00    |

Survey Type: Def Plan

Survey Error Model: ISCWSA0 3 - D 95 % 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 Diameter<br>(in) | Expected Max<br>Inclination<br>(deg) | Survey Tool Code   | Vendor / Tool | Borehole / Survey                                |
|-------------|------|-----------------|---------------|------------------------------------------------|-------------------|-------------------------|--------------------------------------|--------------------|---------------|--------------------------------------------------|
|             | 1    | 0.000           | 9,300.000     | 1/100.000 - 12.25 – 8.75 – 6 – 9.625 – 7 – 4.5 |                   |                         |                                      | A001Mb_MWD         |               | Turnpike 33-32 State Com 212H / Turnpike 33-32 S |
|             | 1    | 9,300.000       | 20,050.945    | 1/100.000                                      | 6                 | 4.5                     |                                      | A008Mb_MWD+IFR1+MS |               | Turnpike 33-32 State Com 212H / Turnpike 33-32 S |

EOU Geometry:

| End MD (ft) | Hole Size (in) | Casing Size (in) | Name |
|-------------|----------------|------------------|------|
| 984.400     | 17.500         | 13.375           |      |
| 4,913.308   | 12.250         | 9.625            |      |
| 9,031.239   | 8.750          | 7.000            |      |
| 20,063.040  | 6.000          | 4.500            |      |

**1. Geological Formations**

TVD of target 9,896

Pilot Hole TD N/A

MD at TD 20,063

Deepest expected fresh water

| Formation                           | Depth (TVD) from KB | Water/Mineral Bearing/Target Zone | Hazards |
|-------------------------------------|---------------------|-----------------------------------|---------|
| Rustler                             | 1780                | N/A                               |         |
| Top of Salt                         | 1840                | N/A                               |         |
| Base of Salt/Lamar                  | 3212                | N/A                               |         |
| Top Delaware Sands/Bell Canyon      | 3850                | N/A                               |         |
| Cherry Canyon                       | 6080                | Hydrocarbons                      |         |
| Brushy Canyon                       | 6848                | Hydrocarbons                      |         |
| Basal Brushy Canyon                 | 7667                | N/A                               |         |
| Bone Spring Lime                    | 7941                | N/A                               |         |
| Leonard                             | 8032                | Hydrocarbons                      |         |
| Avalon                              | 8392                | Hydrocarbons                      |         |
| 1st Bone Spring Sand                | 9236                | Hydrocarbons                      |         |
| 2nd Bone Spring Sand                | 9840                | Hydrocarbons                      |         |
| Upper 2nd Bone Spring Sand - Target | 9896                | Hydrocarbons                      |         |

**2. Casing Program**

| Hole Size                 | Casing Depth From | Casing Depth To | Setting Depth TVD | Casing Size | Weight (lb/ft) | Grade  | Conn. | SF Collapse | SF Burst | SF Tension         |
|---------------------------|-------------------|-----------------|-------------------|-------------|----------------|--------|-------|-------------|----------|--------------------|
| 17 1/2                    | 0                 | 1890            | 1890              | 13-3/8"     | 54.50          | J-55   | BT&C  | 1.38        | 3.35     | 8.28               |
| 12 1/4                    | 0                 | 3867            | 3830              | 9-5/8"      | 40.00          | HCK-55 | LT&C  | 1.91        | 1.98     | 3.66               |
| 8 3/4                     | 0                 | 9341            | 9341              | 7"          |                |        |       |             |          |                    |
| 8 3/4                     | 9341              | 10091           | 9847              | 7"          | 29.00          | P-110  | BT&C  | 1.28        | 2.05     | 63.09              |
| 6                         | 9091              | 20063           | 9896              | 4-1/2"      | 11.60          | L-80   | BT&C  | 1.30        | 1.59     | 28.59              |
| BLM Minimum Safety Factor |                   |                 |                   |             |                |        |       | 1.125       | 1        | 1.6 Dry<br>1.8 Wet |

TVD was used on all calculations.

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h



## Cimarex Energy Co., Turnpike 33-2 State Com 212H

|                                                                                                                                                  | Y or N |
|--------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Is casing new? If used, attach certification as required in Onshore Order #1                                                                     | Y      |
| Does casing meet API specifications? If no, attach casing specification sheet.                                                                   | Y      |
| Is premium or uncommon casing planned? If yes attach casing specification sheet.                                                                 | N      |
| Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria). | Y      |
| Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?                | Y      |
| Is well located within Capitan Reef?                                                                                                             | N      |
| If yes, does production casing cement tie back a minimum of 50' above the Reef?                                                                  | N      |
| Is well within the designated 4 string boundary.                                                                                                 | N      |
| Is well located in SOPA but not in R-111-P?                                                                                                      | N      |
| If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?                                   | N      |
| Is well located in R-111-P and SOPA?                                                                                                             | N      |
| If yes, are the first three strings cemented to surface?                                                                                         | N      |
| Is 2nd string set 100' to 600' below the base of salt?                                                                                           | N      |
| Is well located in high Cave/Karst?                                                                                                              | N      |
| If yes, are there two strings cemented to surface?                                                                                               | N      |
| (For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?                                                           | N      |
| Is well located in critical Cave/Karst?                                                                                                          | N      |
| If yes, are there three strings cemented to surface?                                                                                             | N      |
| Is AC Report included?                                                                                                                           | Y      |

**3. Cementing Program**

| Casing            | # Sk | Wt.<br>lb/gal | Yld<br>ft <sup>3</sup> /sack | H <sub>2</sub> O<br>gal/sk | 500# Comp.<br>Strength<br>(hours) | Slurry Description                                                     |
|-------------------|------|---------------|------------------------------|----------------------------|-----------------------------------|------------------------------------------------------------------------|
| Surface           | 916  | 13.50         | 1.72                         | 9.15                       | 15.5                              | Lead: Class C + Bentonite                                              |
|                   | 245  | 14.80         | 1.34                         | 6.32                       | 9.5                               | Tail: Class C + LCM                                                    |
|                   |      |               |                              |                            |                                   |                                                                        |
| Intermediate      | 654  | 12.90         | 1.88                         | 9.65                       | 12                                | Lead: 35:65 (Poz:C) + Salt + Bentonite                                 |
|                   | 223  | 14.80         | 1.34                         | 6.32                       | 9.5                               | Tail: Class C + LCM                                                    |
|                   |      |               |                              |                            |                                   |                                                                        |
| Production        | 352  | 10.30         | 3.64                         | 22.18                      |                                   | Lead: Tuned Light + LCM                                                |
|                   | 125  | 14.80         | 1.36                         | 6.57                       | 9.5                               | Tail: Class C + Retarder                                               |
|                   |      |               |                              |                            |                                   |                                                                        |
| Completion System | 741  | 14.20         | 1.30                         | 5.86                       | 14:30                             | Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS |
|                   |      |               |                              |                            |                                   |                                                                        |

| Casing String     | TOC  | % Excess |
|-------------------|------|----------|
| Surface           | 0    | 45       |
| Intermediate      | 0    | 56       |
| Production        | 3607 | 25       |
| Completion System | 9891 | 10       |

Cimarex request the ability to perform casing integrity tests after plug bump of cement job.

**4. Pressure Control Equipment**

| A variance is requested for the use of a diverter on the surface casing. See attached for schematic. |        |                 |            |   |                         |
|------------------------------------------------------------------------------------------------------|--------|-----------------|------------|---|-------------------------|
| BOP installed and tested before drilling which hole?                                                 | Size   | Min Required WP | Type       |   | Tested To               |
| 12 1/4                                                                                               | 13 5/8 | 10M             | Annular    | X | 50% of working pressure |
|                                                                                                      |        |                 | Blind Ram  |   | 10M                     |
|                                                                                                      |        |                 | Pipe Ram   | X |                         |
|                                                                                                      |        |                 | Double Ram | X |                         |
|                                                                                                      |        |                 | Other      |   |                         |
| 8 3/4                                                                                                | 13 5/8 | 10M             | Annular    | X | 50% of working pressure |
|                                                                                                      |        |                 | Blind Ram  |   | 10M                     |
|                                                                                                      |        |                 | Pipe Ram   | X |                         |
|                                                                                                      |        |                 | Double Ram | X |                         |
|                                                                                                      |        |                 | Other      |   |                         |
| 6                                                                                                    | 13 5/8 | 10M             | Annular    | X | 50% of working pressure |
|                                                                                                      |        |                 | Blind Ram  |   | 10M                     |
|                                                                                                      |        |                 | Pipe Ram   | X |                         |
|                                                                                                      |        |                 | Double Ram | X |                         |
|                                                                                                      |        |                 | Other      |   |                         |

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

|   |                                                                                                                                                                                                                                                                                                               |  |  |  |  |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| X | Formation integrity test will be performed per Onshore Order #2.<br>On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i. |  |  |  |  |
| X | A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.                                                                                                                                                               |  |  |  |  |
| N | Are anchors required by manufacturer?                                                                                                                                                                                                                                                                         |  |  |  |  |



**5. Mud Program**

| Depth            | Type             | Weight (ppg) | Viscosity | Water Loss |
|------------------|------------------|--------------|-----------|------------|
| 0' to 1890'      | Fresh Water      | 7.83 - 8.33  | 28        | N/C        |
| 1890' to 3807'   | Brine Water      | 9.50 - 10.00 | 30-32     | N/C        |
| 3807' to 10091'  | Cut Brine or OBM | 9.00 - 9.50  | 27-70     | N/C        |
| 10462' to 20063' | OBM              | 9.00 - 9.50  | 50-70     | N/C        |

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

|                                                         |                             |
|---------------------------------------------------------|-----------------------------|
| What will be used to monitor the loss or gain of fluid? | PVT/Pason/Visual Monitoring |
|---------------------------------------------------------|-----------------------------|

**6. Logging and Testing Procedures**

| Logging, Coring and Testing |                                                                                                                                                             |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM. |
| X                           | No logs are planned based on well control or offset log information.                                                                                        |
|                             | Drill stem test?                                                                                                                                            |
|                             | Coring?                                                                                                                                                     |

| Additional Logs Planned | Interval |
|-------------------------|----------|
|-------------------------|----------|

**7. Drilling Conditions**

| Condition                  |          |
|----------------------------|----------|
| BH Pressure at deepest TVD | 4888 psi |
| Abnormal Temperature       | No       |

Hydrogen Sulfide (H<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

|   |                                   |
|---|-----------------------------------|
| X | H <sub>2</sub> S is present       |
| X | H <sub>2</sub> S plan is attached |

**8. Other Facets of Operation****9. Wellhead**

A multi-bowl wellhead system will be utilized.

After running the 13-3/8" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 10000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 10000 psi test. Annular will be tested to 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2.

The multi-bowl wellhead will be installed by vendor's representative. A copy of the installation instructions has been sent to the BLM field office.

The wellhead will be installed by a third-party welder while being monitored by the wellhead vendor representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 10000 psi.

A solid steel body pack-off will be utilized after running and cementing the production casing. After installation the pack-off and lower flange will be pressure tested to 10000 psi.

All casing strings will be tested as per Onshore Order No.2 to at least 0.22 psi/ft or 1,500 whichever is greater and not to exceed 70% of casing burst.

If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

Cimarex Energy Co., Turnpike 33-2 State Com 212H

State of New Mexico  
Energy, Minerals and Natural Resources DepartmentSubmit Electronically  
Via E-permittingOil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505**NATURAL GAS MANAGEMENT PLAN**

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

**Section 1 – Plan Description**  
**Effective May 25, 2021****I. Operator:** Cimarex Energy Company **OGRID:** 215099 **Date:** 6/3/24**II. Type:** ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: \_\_\_\_\_

**III. Well(s):** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name                     | API                    | ULSTR           | Footages | Anticipated Oil BBL/D | Anticipated Gas MCF/D | Anticipated Produced Water BBL/D |
|-------------------------------|------------------------|-----------------|----------|-----------------------|-----------------------|----------------------------------|
| Turnpike 33-32 State Com 212H | SESE Sec 33 T18S, R34E | 1204NL/ 347 FEL | 1000     | 950                   | 1800                  |                                  |
|                               |                        |                 |          |                       |                       |                                  |

**IV. Central Delivery Point Name:** Turnpike CTB [See 19.15.27.9(D)(1) NMAC]**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name                     | API | Spud Date | TD Reached Date | Completion Commencement Date | Initial Flow Back Date | First Production Date |
|-------------------------------|-----|-----------|-----------------|------------------------------|------------------------|-----------------------|
| Turnpike 33-32 State Com 212H |     | 9/15/25   | 10/20/25        | 2/1/26                       | 3/15/26                | 3/15/26               |
|                               |     |           |                 |                              |                        |                       |

**VI. Separation Equipment:** ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.**VII. Operational Practices:** ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.**VIII. Best Management Practices:** ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

## **Section 2 – Enhanced Plan**

### **EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

#### **IX. Anticipated Natural Gas Production:**

| Well | API | Anticipated Average Natural Gas Rate MCF/D | Anticipated Volume of Natural Gas for the First Year MCF |
|------|-----|--------------------------------------------|----------------------------------------------------------|
|      |     |                                            |                                                          |
|      |     |                                            |                                                          |

#### **X. Natural Gas Gathering System (NGGS):**

| Operator | System | ULSTR of Tie-in | Anticipated Gathering Start Date | Available Maximum Daily Capacity of System Segment Tie-in |
|----------|--------|-----------------|----------------------------------|-----------------------------------------------------------|
|          |        |                 |                                  |                                                           |
|          |        |                 |                                  |                                                           |

**XI. Map.** ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:** ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.



### **Section 3 - Certifications**

**Effective May 25, 2021**

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

***If Operator checks this box, Operator will select one of the following:***

**Well Shut-In.** ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.** ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

### **Section 4 - Notices**

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

|                                                                                                  |                                                       |
|--------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Signature:                                                                                       | <i>Shelly Bowen</i>                                   |
| Printed Name:                                                                                    | <input type="text" value="Shelly Bowen"/>             |
| Title:                                                                                           | <input type="text" value="Sr. Regulatory Analyst"/>   |
| E-mail Address:                                                                                  | <input type="text" value="shelly.bowen@coterra.com"/> |
| Date:                                                                                            | 6/3/24                                                |
| Phone:                                                                                           | <input type="text" value="432/620-1644"/>             |
| <b>OIL CONSERVATION DIVISION</b><br><b>(Only applicable when submitted as a standalone form)</b> |                                                       |
| Approved By:                                                                                     |                                                       |
| Title:                                                                                           |                                                       |
| Approval Date:                                                                                   |                                                       |
| Conditions of Approval:                                                                          |                                                       |

***From State of New Mexico, Natural Gas Management Plan***

**VI. Separation Equipment:** Attach a complete description of how Operator will size separation equipment to optimize gas capture.

**XEC Standard Response**

Standard facility gas process flow begins at the inlet separator. These vessels are designed based off of forecasted rates and residence times in accordance with, and often greater than, API 12J. The separated gas is then routed to an additional separation vessel (ie sales scrubber) in order to extract liquids that may have carried over or developed due to the decrease in pressure. The sales scrubber is sized based on API 521. From the sales scrubber, the gas leaves the facility and enters the gas midstream gathering network.

## **Cimarex**

### **VII. Operational Practices**

Cimarex values the sustainable development of New Mexico's natural resources. Venting and flaring of natural gas is a source of waste in the industry, and Cimarex will ensure that its values are aligned with those of NMOCD. As such, Cimarex plans to take pointed steps to ensure compliance with Subsection A through F of 19.15.27.8 NMAC.

Specifically, below are the steps Cimarex will plan to follow under routine well commissioning and operations.

1. Capture or combust natural gas during drilling operations where technically feasible, using the best industry practices and control technologies.
  - a. All flares during these operations will be a minimum of 100ft away from the nearest surface-hole location.
2. All gas present during post-completion drill-out and flow back will be routed through separation equipment, and, if technically feasible, flare unsellable vapors rather than vent. Lastly, formal sales separator commissioning to process well-stream fluids and send gas to a gas flow line/collection system or use the gas for on-site fuel or beneficial usage, gas as soon as is safe and technically feasible.
3. Cimarex will ensure the flare or combustion equipment is properly sized to handle expected flow rates, ensure this equipment is equipped with an automatic or continuous ignition source, and ensure this equipment is designed for proper combustion efficiency.
4. If Cimarex must flare because gas is not meeting pipeline specifications, Cimarex will limit flaring to <60 days, analyze gas composition at least twice per week, and route gas into a gathering pipeline as soon as pipeline specifications are met.
5. Under routine production operations, Cimarex will not flare/vent unless:
  - a. Venting or flaring occurs due to an emergency or equipment malfunction.
  - b. Venting or flaring occurs as a result of unloading practices, and an operator is onsite (or within 30 minutes of drive time and posts contact information at the wellsite) until the end of unloading practice.
  - c. The venting or flaring occurs during automated plungerlift operations, in which case the Cimarex operator will work to optimize the plungerlift system to minimize venting/flaring.
  - d. The venting or flaring occurs during downhole well maintenance, in which case Cimarex will work to minimize venting or flaring operations to the extent that it does not pose a risk to safe operations.
  - e. The well is an exploratory well, the division has approved the well as an exploratory well, venting or flaring is limited to 12 months, as approved by the division, and venting/flaring does not cause Cimarex to breach its State-wide 98% gas capture requirement.
  - f. Venting or flaring occurs because the stock tanks or other low-pressure vessels are being gauged, sampled, or liquids are being loaded out.
  - g. The venting or flaring occurs because pressurized vessels are being maintained and are being blown-down or depressurized.
  - h. Venting or flaring occurs as a result of normal dehydration unit operations.

- i. Venting or flaring occurs as a result of bradenhead testing.
  - j. Venting or flaring occurs as a result of normal compressor operations, including general compressor operations, compressor engines and turbines.
  - k. Venting or flaring occurs as a result of a packer leakage test.
  - l. Venting or flaring occurs as a result of a production test lasting less than 24 hours unless otherwise approved by the division.
  - m. Venting or flaring occurs as a result of new equipment commissioning and is necessary to purge impurities from the pipeline or production equipment.
6. Cimarex will maintain its equipment in accordance with its Operations and Maintenance Program, to ensure venting or flaring events are minimized and that equipment is properly functioning.
7. Cimarex will install automatic tank gauging equipment on all production facilities constructed after May 25, 2021, to ensure minimal emissions from tank gauging practices.
8. By November 25, 2022, all Cimarex facilities equipped with flares or combustors will be equipped with continuous pilots or automatic igniters, and technology to ensure proper function, i.e. thermocouple, fire-eye, etc...
9. Cimarex will perform AVO (audio, visual, olfactory) facility inspections in accordance with NMOCD requirements. Specifically, Cimarex will:
  - a. Perform weekly inspections during the first year of production, and so long as production is greater than 60 MCFD.
  - b. If production is less than 60 MCFD, Cimarex will perform weekly AVO inspections when an operator is present on location, and inspections at least once per calendar month with at least 20 calendar days between inspections.
10. Cimarex will measure or estimate the volume of vented, flared or beneficially used natural gas, regardless of the reason or authorization for such venting or flaring.
11. On all facilities constructed after May 25, 2021, Cimarex will install metering where feasible and in accordance with available technology and best engineering practices, in an effort to measure how much gas could have been vented or flared.
  - a. In areas where metering is not technically feasible, such as low-pressure/low volume venting or flaring applications, engineering estimates will be used such that the methodology could be independently verified.
12. Cimarex will fulfill the division's requirements for reporting and filing of venting or flaring that exceeds 50 MCF in volume or last eight hours or more cumulatively within any 24-hour period.



## VIII. Best Management Practices to minimize venting during active and planned maintenance

Cimarex strives to ensure minimal venting occurs during active and planned maintenance activities. Below is a description of common maintenance practices, and the steps Cimarex takes to limit venting exposure.

- **Workovers:**
  - Always strive to kill well when performing downhole maintenance.
  - If vapors or trapped pressure is present and must be relieved then:
    - Initial blowdown to production facility:
      - Route vapors to LP flare if possible/applicable
    - Blowdown to portable gas buster tank:
      - Vent to existing or portable flare if applicable.
- **Stock tank servicing:**
  - Minimize time spent with thief hatches open.
  - When cleaning or servicing via manway, suck tank bottoms to ensure minimal volatiles exposed to atmosphere.
    - Connect vacuum truck to low pressure flare while cleaning bottoms to limit venting.
  - Isolate the vent lines and overflows on the tank being serviced from other tanks.
- **Pressure vessel/compressor servicing and associated blowdowns:**
  - Route to flare where possible.
  - Blow vessel down to minimum available pressure via pipeline, prior to venting vessel.
  - Preemptively changing anodes to reduce failures and extended corrosion related servicing.
  - When cleaning or servicing via manway, suck vessel bottoms to ensure minimal volatiles exposed to atmosphere.
- **Flare/combustor maintenance:**
  - Minimize downtime by coordinating with vendor and Cimarex staff travel logistics.
  - Utilizing preventative and predictive maintenance programs to replace high wear components before failure.
  - Because the flare/combustor is the primary equipment used to limit venting practices, ensure flare/combustor is properly maintained and fully operational at all times via routine maintenance, temperature telemetry, onsite visual inspections.

*The Cimarex expectation is to limit all venting exposure. Equipment that may not be listed on this document is still expected to be maintained and associated venting during such maintenance minimized.*