

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTOCD - HOBBS  
04/17/2020  
RECEIVEDFORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

|                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                               |  |                                                                                                                                                                                                                                                                                                                              |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1a. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other                                                                                                                                                                                                                                                          |  |                                                                               |  | 5. Lease Serial No.<br>NMNM0559539                                                                                                                                                                                                                                                                                           |  |
| b. Type of Completion <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resvr.<br>Other _____                                                                                                                                                                                        |  |                                                                               |  | 6. If Indian, Allottee or Tribe Name                                                                                                                                                                                                                                                                                         |  |
| 2. Name of Operator<br>CIMAREX ENERGY COMPANY Contact: FATIMA VASQUEZ<br>E-Mail: fvasquez@cimarex.com                                                                                                                                                                                                                                                                                                                |  |                                                                               |  | 7. Unit or CA Agreement Name and No.                                                                                                                                                                                                                                                                                         |  |
| 3. Address 600 N MARIENFELD ST STE 600<br>MIDLAND, TX 79701                                                                                                                                                                                                                                                                                                                                                          |  | 3a. Phone No. (include area code)<br>Ph: 432-620-1933                         |  | 8. Lease Name and Well No.<br>JAMES 20-29 FEDERAL COM 37H                                                                                                                                                                                                                                                                    |  |
| 4. Location of Well (Report location clearly and in accordance with Federal requirements)*<br>Sec 20 T23S R32E Mer NMP<br>At surface NWNW 400FNL 855FWL 32.296174 N Lat, 103.702441 W Lon<br>Sec 20 T23S R32E Mer NMP<br>At top prod interval reported below NWNW 677FNL 329FWL 32.295375 N Lat, 103.704143 W Lon<br>Sec 29 T23S R32E Mer NMP<br>At total depth SWSW 332FSL 325FWL 32.269145 N Lat, 103.704150 W Lon |  |                                                                               |  | 9. API Well No.<br>30-025-45602                                                                                                                                                                                                                                                                                              |  |
| 14. Date Spudded<br>11/07/2019                                                                                                                                                                                                                                                                                                                                                                                       |  | 15. Date T.D. Reached<br>11/26/2019                                           |  | 10. Field and Pool, or Exploratory<br>SAND DUNES;BONE SPRING, S                                                                                                                                                                                                                                                              |  |
| 16. Date Completed<br><input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod.<br>02/04/2020                                                                                                                                                                                                                                                                                                |  | 11. Sec., T., R., M., or Block and Survey<br>or Area Sec 20 T23S R32E Mer NMP |  | 12. County or Parish<br>LEA                                                                                                                                                                                                                                                                                                  |  |
| 13. State<br>NM                                                                                                                                                                                                                                                                                                                                                                                                      |  | 17. Elevations (DF, KB, RT, GL)*<br>3678 GL                                   |  |                                                                                                                                                                                                                                                                                                                              |  |
| 18. Total Depth: MD 20191<br>TVD 10527                                                                                                                                                                                                                                                                                                                                                                               |  | 19. Plug Back T.D.: MD 20151<br>TVD 10527                                     |  | 20. Depth Bridge Plug Set: MD<br>TVD                                                                                                                                                                                                                                                                                         |  |
| 21. Type Electric & Other Mechanical Logs Run (Submit copy of each)<br>CNL/RCBL                                                                                                                                                                                                                                                                                                                                      |  |                                                                               |  | 22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis)<br>Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis)<br>Directional Survey? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (Submit analysis) |  |

## 23. Casing and Liner Record (Report all strings set in well)

| Hole Size | Size/Grade  | Wt. (#/ft.) | Top (MD) | Bottom (MD) | Stage Cementer Depth | No. of Sk. & Type of Cement | Slurry Vol. (BBL) | Cement Top* | Amount Pulled |
|-----------|-------------|-------------|----------|-------------|----------------------|-----------------------------|-------------------|-------------|---------------|
| 17.500    | 13.375 J-55 | 48.0        | 0        | 1233        |                      | 1050                        |                   | 0           |               |
| 12.250    | 9.625 K-55  | 36.0        | 0        | 4683        |                      | 1600                        |                   | 0           |               |
| 8.750     | 7.000 P-110 | 29.0        | 0        | 9058        |                      |                             |                   | 0           |               |
| 8.750     | 5.500 P-110 | 20.0        | 9058     | 20166       |                      | 2820                        |                   | 0           |               |
|           |             |             |          |             |                      |                             |                   |             |               |
|           |             |             |          |             |                      |                             |                   |             |               |

## 24. Tubing Record

| Size  | Depth Set (MD) | Packer Depth (MD) | Size | Depth Set (MD) | Packer Depth (MD) | Size | Depth Set (MD) | Packer Depth (MD) |
|-------|----------------|-------------------|------|----------------|-------------------|------|----------------|-------------------|
| 3.500 | 10100          | 10100             |      |                |                   |      |                |                   |

## 25. Producing Intervals

| Formation      | Top  | Bottom | Perforated Interval | Size  | No. Holes | Perf. Status |
|----------------|------|--------|---------------------|-------|-----------|--------------|
| A) BONE SPRING | 8600 |        | 10625 TO 20125      | 0.410 | 1735      | PRODUCING    |
| B)             |      |        |                     |       |           |              |
| C)             |      |        |                     |       |           |              |
| D)             |      |        |                     |       |           |              |

## 26. Perforation Record

## 27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

| Depth Interval | Amount and Type of Material                 |
|----------------|---------------------------------------------|
| 10625 TO 20125 | 431,651 BBLS TOTAL FLUID & 22,114,157# SAND |
|                |                                             |
|                |                                             |
|                |                                             |

## 28. Production - Interval A

| Date First Produced | Test Date         | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
|---------------------|-------------------|--------------|-----------------|---------|---------|-----------|-----------------------|-------------|-------------------|
| 02/04/2020          | 02/22/2020        | 24           | →               | 1398.0  | 1738.0  | 5076.0    | 44.2                  |             | GAS LIFT          |
| Choke Size          | Tbg. Press. Flwg. | Csg. Press.  | 24 Hr. Rate     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio         | Well Status |                   |
| 54                  | 429 SI            | 124.0        | →               | 1398    | 1738    | 5076      | 1243                  | POW         |                   |

## 28a. Production - Interval B

| Date First Produced | Test Date         | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
|---------------------|-------------------|--------------|-----------------|---------|---------|-----------|-----------------------|-------------|-------------------|
|                     |                   |              | →               |         |         |           |                       |             |                   |
| Choke Size          | Tbg. Press. Flwg. | Csg. Press.  | 24 Hr. Rate     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio         | Well Status |                   |
|                     | SI                |              | →               |         |         |           |                       |             |                   |

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #510071 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

| 28b. Production - Interval C |                      |              |                      |         |         |           |                       |             |                   |
|------------------------------|----------------------|--------------|----------------------|---------|---------|-----------|-----------------------|-------------|-------------------|
| Date First Produced          | Test Date            | Hours Tested | Test Production<br>→ | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
| Choke Size                   | Tbg. Press. Flwg. SI | Csg. Press.  | 24 Hr. Rate<br>→     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio         | Well Status |                   |

| 28c. Production - Interval D |                      |              |                      |         |         |           |                       |             |                   |
|------------------------------|----------------------|--------------|----------------------|---------|---------|-----------|-----------------------|-------------|-------------------|
| Date First Produced          | Test Date            | Hours Tested | Test Production<br>→ | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
| Choke Size                   | Tbg. Press. Flwg. SI | Csg. Press.  | 24 Hr. Rate<br>→     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio         | Well Status |                   |

29. Disposition of Gas(*Sold, used for fuel, vented, etc.*)  
**SOLD**

| 30. Summary of Porous Zones (Include Aquifers):                                                                                                                                                                          | 31. Formation (Log) Markers |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <p>Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.</p> |                             |

| Formation     | Top  | Bottom | Descriptions, Contents, etc. | Name          | Top         |
|---------------|------|--------|------------------------------|---------------|-------------|
|               |      |        |                              |               | Meas. Depth |
| BELL CANYON   | 4860 | 5680   | SANDSTONE; WATER             | RUSTLER       | 1130        |
| CHERRY CANYON | 5630 | 6960   | SANDSTONE; WATER             | TOP OF SALT   | 1440        |
| BRUSHY CANYON | 6950 | 8600   | SANDSTONE; WATER             | BELL CANYON   | 4860        |
| BONE SPRING   | 8600 |        | LS/SHALE/SS; WATER, OIL, GAS | CHERRY CANYON | 5680        |
|               |      |        |                              | BRUSHY CANYON | 6950        |
|               |      |        |                              | BONE SPRING   | 8600        |

32. Additional remarks (include plugging procedure):

| 33. Circle enclosed attachments:                      |                    |               |                       |
|-------------------------------------------------------|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.)     | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis   | 7 Other:      |                       |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):  
**Electronic Submission #510071 Verified by the BLM Well Information System.**  
**For CIMAREX ENERGY COMPANY, sent to the Hobbs**

|                                                    |                                 |
|----------------------------------------------------|---------------------------------|
| Name ( <i>please print</i> ) <u>FATIMA VASQUEZ</u> | Title <u>REGULATORY ANALYST</u> |
| Signature _____ (Electronic Submission)            | Date <u>04/08/2020</u>          |

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

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTOCD - HOBBS  
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## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

|                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                               |  |                                                                                                                                                                                                                                                                                                                              |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1a. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other                                                                                                                                                                                                                                                          |  |                                                                               |  | 5. Lease Serial No.<br>NMNM0559539                                                                                                                                                                                                                                                                                           |  |
| b. Type of Completion <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resvr.<br>Other _____                                                                                                                                                                                        |  |                                                                               |  | 6. If Indian, Allottee or Tribe Name                                                                                                                                                                                                                                                                                         |  |
| 2. Name of Operator<br>CIMAREX ENERGY COMPANY Contact: FATIMA VASQUEZ<br>E-Mail: fvasquez@cimarex.com                                                                                                                                                                                                                                                                                                                |  |                                                                               |  | 7. Unit or CA Agreement Name and No.                                                                                                                                                                                                                                                                                         |  |
| 3. Address 600 N MARIENFELD ST STE 600<br>MIDLAND, TX 79701                                                                                                                                                                                                                                                                                                                                                          |  | 3a. Phone No. (include area code)<br>Ph: 432-620-1933                         |  | 8. Lease Name and Well No.<br>JAMES 20-29 FEDERAL COM 37H                                                                                                                                                                                                                                                                    |  |
| 4. Location of Well (Report location clearly and in accordance with Federal requirements)*<br>Sec 20 T23S R32E Mer NMP<br>At surface NWNW 400FNL 855FWL 32.296174 N Lat, 103.702441 W Lon<br>Sec 20 T23S R32E Mer NMP<br>At top prod interval reported below NWNW 677FNL 329FWL 32.295375 N Lat, 103.704143 W Lon<br>Sec 29 T23S R32E Mer NMP<br>At total depth SWSW 332FSL 325FWL 32.269145 N Lat, 103.704150 W Lon |  |                                                                               |  | 9. API Well No.<br>30-025-45602                                                                                                                                                                                                                                                                                              |  |
| 14. Date Spudded<br>11/07/2019                                                                                                                                                                                                                                                                                                                                                                                       |  | 15. Date T.D. Reached<br>11/26/2019                                           |  | 10. Field and Pool, or Exploratory<br>SAND DUNES;BONE SPRING, S                                                                                                                                                                                                                                                              |  |
| 16. Date Completed<br><input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod.<br>02/04/2020                                                                                                                                                                                                                                                                                                |  | 11. Sec., T., R., M., or Block and Survey<br>or Area Sec 20 T23S R32E Mer NMP |  | 12. County or Parish<br>LEA                                                                                                                                                                                                                                                                                                  |  |
| 13. State<br>NM                                                                                                                                                                                                                                                                                                                                                                                                      |  | 17. Elevations (DF, KB, RT, GL)*<br>3678 GL                                   |  |                                                                                                                                                                                                                                                                                                                              |  |
| 18. Total Depth: MD 20191<br>TVD 10527                                                                                                                                                                                                                                                                                                                                                                               |  | 19. Plug Back T.D.: MD 20151<br>TVD 10527                                     |  | 20. Depth Bridge Plug Set: MD<br>TVD                                                                                                                                                                                                                                                                                         |  |
| 21. Type Electric & Other Mechanical Logs Run (Submit copy of each)<br>CNL/RCBL                                                                                                                                                                                                                                                                                                                                      |  |                                                                               |  | 22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis)<br>Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis)<br>Directional Survey? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (Submit analysis) |  |

## 23. Casing and Liner Record (Report all strings set in well)

| Hole Size | Size/Grade  | Wt. (#/ft.) | Top (MD) | Bottom (MD) | Stage Cementer Depth | No. of Sk. & Type of Cement | Slurry Vol. (BBL) | Cement Top* | Amount Pulled |
|-----------|-------------|-------------|----------|-------------|----------------------|-----------------------------|-------------------|-------------|---------------|
| 17.500    | 13.375 J-55 | 48.0        | 0        | 1233        |                      | 1050                        |                   | 0           |               |
| 12.250    | 9.625 K-55  | 36.0        | 0        | 4683        |                      | 1600                        |                   | 0           |               |
| 8.750     | 7.000 P-110 | 29.0        | 0        | 9058        |                      |                             |                   | 0           |               |
| 8.750     | 5.500 P-110 | 20.0        | 9058     | 20166       |                      | 2820                        |                   | 0           |               |
|           |             |             |          |             |                      |                             |                   |             |               |
|           |             |             |          |             |                      |                             |                   |             |               |

## 24. Tubing Record

| Size  | Depth Set (MD) | Packer Depth (MD) | Size | Depth Set (MD) | Packer Depth (MD) | Size | Depth Set (MD) | Packer Depth (MD) |
|-------|----------------|-------------------|------|----------------|-------------------|------|----------------|-------------------|
| 3.500 | 10100          | 10100             |      |                |                   |      |                |                   |

## 25. Producing Intervals

| Formation      | Top  | Bottom | Perforated Interval | Size  | No. Holes | Perf. Status |
|----------------|------|--------|---------------------|-------|-----------|--------------|
| A) BONE SPRING | 8600 |        | 10625 TO 20125      | 0.410 | 1735      | PRODUCING    |
| B)             |      |        |                     |       |           |              |
| C)             |      |        |                     |       |           |              |
| D)             |      |        |                     |       |           |              |

## 26. Perforation Record

## 27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

| Depth Interval | Amount and Type of Material                 |
|----------------|---------------------------------------------|
| 10625 TO 20125 | 431,651 BBLS TOTAL FLUID & 22,114,157# SAND |
|                |                                             |
|                |                                             |
|                |                                             |

## 28. Production - Interval A

| Date First Produced | Test Date         | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
|---------------------|-------------------|--------------|-----------------|---------|---------|-----------|-----------------------|-------------|-------------------|
| 02/04/2020          | 02/22/2020        | 24           | →               | 1398.0  | 1738.0  | 5076.0    | 44.2                  |             | GAS LIFT          |
| Choke Size          | Tbg. Press. Flwg. | Csg. Press.  | 24 Hr. Rate     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio         | Well Status |                   |
| 54                  | 429 SI            | 124.0        | →               | 1398    | 1738    | 5076      | 1243                  | POW         |                   |

## 28a. Production - Interval B

| Date First Produced | Test Date         | Hours Tested | Test Production | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
|---------------------|-------------------|--------------|-----------------|---------|---------|-----------|-----------------------|-------------|-------------------|
|                     |                   |              | →               |         |         |           |                       |             |                   |
| Choke Size          | Tbg. Press. Flwg. | Csg. Press.  | 24 Hr. Rate     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio         | Well Status |                   |
|                     | SI                |              | →               |         |         |           |                       |             |                   |

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #510071 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

| 28b. Production - Interval C |                      |              |                      |         |         |           |                       |             |                   |
|------------------------------|----------------------|--------------|----------------------|---------|---------|-----------|-----------------------|-------------|-------------------|
| Date First Produced          | Test Date            | Hours Tested | Test Production<br>→ | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
| Choke Size                   | Tbg. Press. Flwg. SI | Csg. Press.  | 24 Hr. Rate<br>→     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio         | Well Status |                   |

| 28c. Production - Interval D |                      |              |                      |         |         |           |                       |             |                   |
|------------------------------|----------------------|--------------|----------------------|---------|---------|-----------|-----------------------|-------------|-------------------|
| Date First Produced          | Test Date            | Hours Tested | Test Production<br>→ | Oil BBL | Gas MCF | Water BBL | Oil Gravity Corr. API | Gas Gravity | Production Method |
| Choke Size                   | Tbg. Press. Flwg. SI | Csg. Press.  | 24 Hr. Rate<br>→     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio         | Well Status |                   |

29. Disposition of Gas(*Sold, used for fuel, vented, etc.*)  
**SOLD**

| 30. Summary of Porous Zones (Include Aquifers):                                                                                                                                                                          | 31. Formation (Log) Markers |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <p>Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.</p> |                             |

| Formation     | Top  | Bottom | Descriptions, Contents, etc. | Name          | Top         |
|---------------|------|--------|------------------------------|---------------|-------------|
|               |      |        |                              |               | Meas. Depth |
| BELL CANYON   | 4860 | 5680   | SANDSTONE; WATER             | RUSTLER       | 1130        |
| CHERRY CANYON | 5630 | 6960   | SANDSTONE; WATER             | TOP OF SALT   | 1440        |
| BRUSHY CANYON | 6950 | 8600   | SANDSTONE; WATER             | BELL CANYON   | 4860        |
| BONE SPRING   | 8600 |        | LS/SHALE/SS; WATER, OIL, GAS | CHERRY CANYON | 5680        |
|               |      |        |                              | BRUSHY CANYON | 6950        |
|               |      |        |                              | BONE SPRING   | 8600        |

32. Additional remarks (include plugging procedure):

| 33. Circle enclosed attachments:                      |                    |               |                       |
|-------------------------------------------------------|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.)     | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis   | 7 Other:      |                       |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):  
**Electronic Submission #510071 Verified by the BLM Well Information System.**  
**For CIMAREX ENERGY COMPANY, sent to the Hobbs**

|                                                    |                                 |
|----------------------------------------------------|---------------------------------|
| Name ( <i>please print</i> ) <u>FATIMA VASQUEZ</u> | Title <u>REGULATORY ANALYST</u> |
| Signature _____ (Electronic Submission)            | Date <u>04/08/2020</u>          |

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

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 Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 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

OCD - HOBBS  
04/17/2020  
RECEIVED

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<br>30-025-45602 | <sup>2</sup> Pool Code<br>53805                       | <sup>3</sup> Pool Name<br>Sand Dunes; Bone Spring, South |
| <sup>4</sup> Property Code<br>313723    | <sup>5</sup> Property Name<br>JAMES 20-29 FEDERAL COM | <sup>6</sup> Well Number<br>37H                          |
| <sup>7</sup> OGRID No.<br>215099        | <sup>8</sup> Operator Name<br>CIMAREX ENERGY CO.      | <sup>9</sup> Elevation<br>3677.6                         |

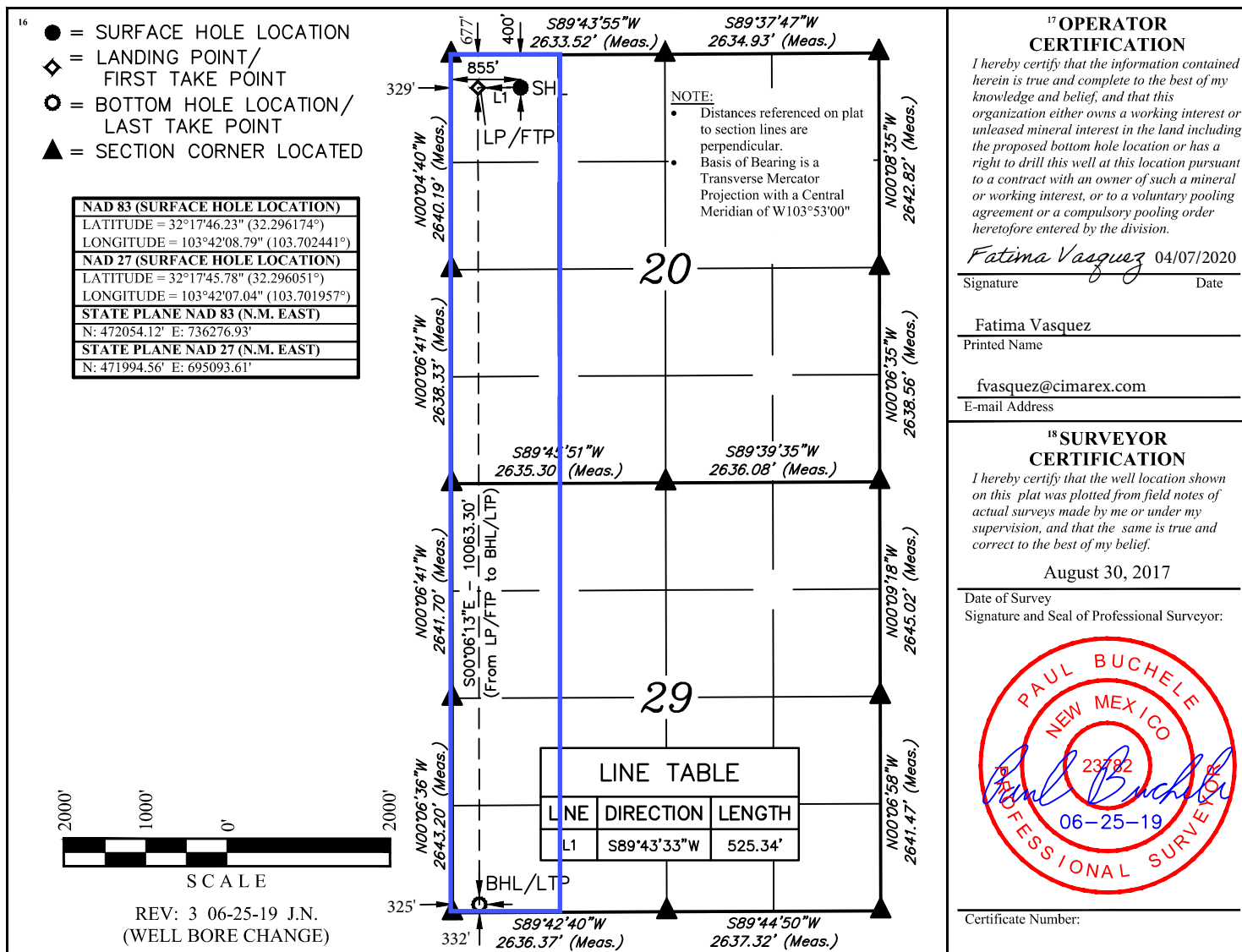
<sup>10</sup> Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| D             | 20      | 23S      | 32E   |         | 400           | NORTH            | 855           | WEST           | LEA    |

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

| UL or lot no.                        | Section                       | Township                         | Range                   | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|--------------------------------------|-------------------------------|----------------------------------|-------------------------|---------|---------------|------------------|---------------|----------------|--------|
| M                                    | 29                            | 23S                              | 32E                     |         | 332           | SOUTH            | 325           | WEST           | 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.



<sup>17</sup> 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.

Fatima Vasquez 04/07/2020  
Signature Date

Fatima Vasquez  
Printed Name

fvasquez@cimarex.com  
E-mail Address

<sup>18</sup> 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.

August 30, 2017

Date of Survey  
Signature and Seal of Professional Surveyor:



Certificate Number:

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

OCD – HOBBS  
04/17/2020  
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Form C-104  
Revised August 1, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

|                                        |                            |                                                     |                              |
|----------------------------------------|----------------------------|-----------------------------------------------------|------------------------------|
| <sup>1</sup> Operator name and Address |                            | <sup>2</sup> OGRID Number                           |                              |
|                                        |                            | <sup>3</sup> Reason for Filing Code/ Effective Date |                              |
| <sup>4</sup> API Number                | <sup>5</sup> Pool Name     |                                                     | <sup>6</sup> Pool Code<br>KZ |
| <sup>7</sup> Property Code             | <sup>8</sup> Property Name |                                                     | <sup>9</sup> Well Number     |

II. <sup>10</sup>Surface Location

|               |         |          |       |         |               |                  |               |                |        |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South Line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|

<sup>11</sup> Bottom Hole Location

|                        |                                     |          |                                   |         |                                   |                  |                                    |                |                                     |
|------------------------|-------------------------------------|----------|-----------------------------------|---------|-----------------------------------|------------------|------------------------------------|----------------|-------------------------------------|
| UL or lot no.          | Section                             | Township | Range                             | Lot Idn | Feet from the                     | North/South line | Feet from the                      | East/West line | County                              |
| <sup>12</sup> Lse Code | <sup>13</sup> Producing Method Code |          | <sup>14</sup> Gas Connection Date |         | <sup>15</sup> C-129 Permit Number |                  | <sup>16</sup> C-129 Effective Date |                | <sup>17</sup> C-129 Expiration Date |

III. Oil and Gas Transporters

|                                 |                                            |                     |
|---------------------------------|--------------------------------------------|---------------------|
| <sup>18</sup> Transporter OGRID | <sup>19</sup> Transporter Name and Address | <sup>20</sup> O/G/W |
|                                 |                                            |                     |
|                                 |                                            |                     |
|                                 |                                            |                     |
|                                 |                                            |                     |
|                                 |                                            |                     |
|                                 |                                            |                     |
|                                 |                                            |                     |

IV. Well Completion Data

|                         |                          |                                    |                         |                            |                            |
|-------------------------|--------------------------|------------------------------------|-------------------------|----------------------------|----------------------------|
| <sup>21</sup> Spud Date | <sup>22</sup> Ready Date | <sup>23</sup> TD                   | <sup>24</sup> PBTd      | <sup>25</sup> Perforations | <sup>26</sup> DHC, MC      |
| <sup>27</sup> Hole Size |                          | <sup>28</sup> Casing & Tubing Size | <sup>29</sup> Depth Set |                            | <sup>30</sup> Sacks Cement |
|                         |                          |                                    |                         |                            |                            |
|                         |                          |                                    |                         |                            |                            |
|                         |                          |                                    |                         |                            |                            |
|                         |                          |                                    |                         |                            |                            |

V. Well Test Data

|                                                                                                                                                                                                                                              |                                 |                         |                                       |                             |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------|---------------------------------------|-----------------------------|-----------------------------|
| <sup>31</sup> Date New Oil                                                                                                                                                                                                                   | <sup>32</sup> Gas Delivery Date | <sup>33</sup> Test Date | <sup>34</sup> Test Length             | <sup>35</sup> Tbg. Pressure | <sup>36</sup> Csg. Pressure |
| <sup>37</sup> Choke Size                                                                                                                                                                                                                     | <sup>38</sup> Oil               | <sup>39</sup> Water     | <sup>40</sup> Gas                     |                             | <sup>41</sup> Test Method   |
| <sup>42</sup> I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.<br>Signature: <i>Fatima Vasquez</i> |                                 |                         | OIL CONSERVATION DIVISION             |                             |                             |
| Printed name:                                                                                                                                                                                                                                |                                 |                         | Approved by: <i>Patricia Martinez</i> |                             |                             |
| Title:                                                                                                                                                                                                                                       |                                 |                         | Title: <i>LM II</i>                   |                             |                             |
| E-mail Address:                                                                                                                                                                                                                              |                                 |                         | Approval Date: <i>6/16/2020</i>       |                             |                             |
| Date:                                                                                                                                                                                                                                        |                                 | Phone:                  |                                       |                             |                             |

# Cimarex

Lea County, New Mexico (NAD83) James 20-29 Federal Com Pad (Grid)

API#

James 20-29 Federal Com 37H

SHL: (400' FNL - 855' FWL)

Wellbore #1

Design: Wellbore #1

OCD - HOBBS  
04/17/2020  
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## Sperry Drilling Services

### Combo Report

04 December, 2019

Well Coordinates: 32.29617392  
-103.70244132

North American Datum 1983  
New Mexico Eastern Zone  
472,054.12 N  
736,276.93 E

Ground Level: 3,677.60 usft

Local Coordinate Origin:

Centered on Well James 20-29 Federal Com 37H

Viewing Datum:

RKB (H&P 380) 26' + GL(3677.6') @ 3703.60usft

TVDs to System:

N

**North Reference:**

**Grid**

Unit System:

Midcon (2 decimal)

Version: 5000.15 Build: 91E

Report Version: Midcon Combo v1.14

**HALLIBURTON**

## Design Report for James 20-29 Federal Com 37H - Wellbore #1

| Measured |             | Grid    | Vertical | Local Coordinates |         | Map Coordinates |            | Dogleg      | Vertical | Toolface |                           |
|----------|-------------|---------|----------|-------------------|---------|-----------------|------------|-------------|----------|----------|---------------------------|
| Depth    | Inclination | Azimuth | Depth    | Northing          | Easting | Northing        | Easting    | Rate        | Section  | Angle    | Comments                  |
| (usft)   | (°)         | (°)     | (usft)   | (usft)            | (usft)  | (usft)          | (usft)     | (°/100usft) | (usft)   | (°)      |                           |
| 0.00     | 0.00        | 0.00    | 0.00     | 0.00 N            | 0.00 E  | 472,054.12      | 736,276.93 | 0.00        | 0.00     | 0.00     |                           |
| 176.00   | 0.65        | 225.28  | 176.00   | 0.70 S            | 0.71 W  | 472,053.42      | 736,276.22 | 0.37        | 0.70     | 225.28   | First MWD Survey @ 176'MD |
| 205.00   | 0.76        | 240.02  | 204.99   | 0.91 S            | 0.99 W  | 472,053.21      | 736,275.94 | 0.73        | 0.91     | 66.27    |                           |
| 301.00   | 0.87        | 239.53  | 300.98   | 1.60 S            | 2.17 W  | 472,052.52      | 736,274.76 | 0.11        | 1.59     | -3.87    |                           |
| 391.00   | 0.91        | 243.68  | 390.97   | 2.27 S            | 3.40 W  | 472,051.85      | 736,273.53 | 0.08        | 2.25     | 60.27    |                           |
| 482.00   | 0.90        | 223.27  | 481.96   | 3.11 S            | 4.54 W  | 472,051.01      | 736,272.39 | 0.35        | 3.08     | -101.96  |                           |
| 573.00   | 0.88        | 231.77  | 572.95   | 4.06 S            | 5.58 W  | 472,050.06      | 736,271.35 | 0.15        | 4.03     | 102.85   |                           |
| 664.00   | 0.87        | 236.29  | 663.94   | 4.87 S            | 6.70 W  | 472,049.25      | 736,270.23 | 0.08        | 4.83     | 100.50   |                           |
| 755.00   | 0.43        | 166.49  | 754.94   | 5.59 S            | 7.20 W  | 472,048.53      | 736,269.73 | 0.91        | 5.55     | -150.78  |                           |
| 845.00   | 0.35        | 148.13  | 844.93   | 6.15 S            | 6.97 W  | 472,047.97      | 736,269.96 | 0.16        | 6.11     | -131.58  |                           |
| 940.00   | 0.32        | 153.06  | 939.93   | 6.64 S            | 6.70 W  | 472,047.48      | 736,270.23 | 0.04        | 6.60     | 138.59   |                           |
| 1,000.07 | 0.37        | 148.61  | 1,000.00 | 6.95 S            | 6.52 W  | 472,047.17      | 736,270.41 | 0.10        | 6.91     | -30.16   | 13 3/8"                   |
| 1,034.00 | 0.40        | 146.60  | 1,033.93 | 7.14 S            | 6.40 W  | 472,046.98      | 736,270.53 | 0.10        | 7.10     | -25.71   |                           |
| 1,128.00 | 0.29        | 114.67  | 1,127.93 | 7.52 S            | 6.00 W  | 472,046.60      | 736,270.93 | 0.23        | 7.48     | -135.09  |                           |
| 1,163.00 | 0.27        | 128.12  | 1,162.93 | 7.60 S            | 5.86 W  | 472,046.52      | 736,271.07 | 0.20        | 7.57     | 113.58   |                           |
| 1,317.00 | 0.07        | 75.42   | 1,316.93 | 7.80 S            | 5.48 W  | 472,046.32      | 736,271.45 | 0.15        | 7.77     | -166.25  |                           |
| 1,412.00 | 0.22        | 298.21  | 1,411.93 | 7.70 S            | 5.59 W  | 472,046.42      | 736,271.34 | 0.29        | 7.67     | -147.15  |                           |
| 1,506.00 | 0.39        | 245.22  | 1,505.93 | 7.75 S            | 6.04 W  | 472,046.37      | 736,270.89 | 0.33        | 7.72     | -87.29   |                           |
| 1,600.00 | 0.61        | 252.44  | 1,599.92 | 8.04 S            | 6.80 W  | 472,046.08      | 736,270.13 | 0.24        | 8.00     | 19.61    |                           |
| 1,695.00 | 0.37        | 155.34  | 1,694.92 | 8.47 S            | 7.16 W  | 472,045.65      | 736,269.77 | 0.79        | 8.43     | -150.75  |                           |
| 1,789.00 | 0.58        | 105.74  | 1,788.92 | 8.87 S            | 6.57 W  | 472,045.25      | 736,270.36 | 0.47        | 8.83     | -89.23   |                           |
| 1,883.00 | 0.56        | 117.59  | 1,882.91 | 9.22 S            | 5.71 W  | 472,044.90      | 736,271.22 | 0.13        | 9.18     | 105.52   |                           |
| 1,977.00 | 0.79        | 105.63  | 1,976.91 | 9.60 S            | 4.68 W  | 472,044.52      | 736,272.25 | 0.29        | 9.57     | -37.56   |                           |
| 2,072.00 | 0.77        | 114.76  | 2,071.90 | 10.05 S           | 3.47 W  | 472,044.07      | 736,273.46 | 0.13        | 10.03    | 103.69   |                           |
| 2,166.00 | 0.86        | 111.89  | 2,165.89 | 10.57 S           | 2.24 W  | 472,043.55      | 736,274.69 | 0.11        | 10.56    | -25.84   |                           |
| 2,260.00 | 0.95        | 111.38  | 2,259.88 | 11.12 S           | 0.86 W  | 472,043.00      | 736,276.07 | 0.10        | 11.12    | -5.37    |                           |
| 2,355.00 | 1.02        | 64.62   | 2,354.86 | 11.05 S           | 0.64 E  | 472,043.07      | 736,277.57 | 0.83        | 11.05    | -108.68  |                           |
| 2,449.00 | 1.26        | 67.56   | 2,448.84 | 10.29 S           | 2.35 E  | 472,043.83      | 736,279.28 | 0.26        | 10.31    | 15.17    |                           |
| 2,544.00 | 1.08        | 30.32   | 2,543.83 | 9.12 S            | 3.77 E  | 472,045.00      | 736,280.70 | 0.81        | 9.14     | -121.48  |                           |
| 2,638.00 | 1.48        | 26.22   | 2,637.80 | 7.27 S            | 4.75 E  | 472,046.85      | 736,281.68 | 0.44        | 7.30     | -14.95   |                           |
| 2,732.00 | 0.95        | 7.08    | 2,731.78 | 5.41 S            | 5.38 E  | 472,048.71      | 736,282.31 | 0.70        | 5.44     | -151.87  |                           |
| 2,827.00 | 0.77        | 325.47  | 2,826.77 | 4.10 S            | 5.12 E  | 472,050.02      | 736,282.05 | 0.67        | 4.13     | -126.20  |                           |
| 2,921.00 | 1.04        | 343.00  | 2,920.76 | 2.76 S            | 4.51 E  | 472,051.36      | 736,281.44 | 0.41        | 2.79     | 54.71    |                           |
| 3,015.00 | 1.22        | 345.04  | 3,014.74 | 0.98 S            | 4.00 E  | 472,053.14      | 736,280.93 | 0.20        | 1.00     | 13.62    |                           |
| 3,109.00 | 0.54        | 341.24  | 3,108.73 | 0.41 N            | 3.60 E  | 472,054.53      | 736,280.53 | 0.73        | -0.39    | -176.99  |                           |
| 3,204.00 | 0.61        | 334.80  | 3,203.73 | 1.29 N            | 3.24 E  | 472,055.41      | 736,280.17 | 0.10        | -1.27    | -45.97   |                           |

## Design Report for James 20-29 Federal Com 37H - Wellbore #1

| Measured |             | Grid    | Vertical | Local Coordinates |          | Map Coordinates |            | Dogleg      | Vertical | Toolface |          |
|----------|-------------|---------|----------|-------------------|----------|-----------------|------------|-------------|----------|----------|----------|
| Depth    | Inclination | Azimuth | Depth    | Northing          | Easting  | Northing        | Easting    | Rate        | Section  | Angle    | Comments |
| (usft)   | (°)         | (°)     | (usft)   | (usft)            | (usft)   | (usft)          | (usft)     | (°/100usft) | (usft)   | (°)      |          |
| 3,298.00 | 0.31        | 10.60   | 3,297.72 | 1.99 N            | 3.08 E   | 472,056.11      | 736,280.01 | 0.43        | -1.97    | 153.17   |          |
| 3,392.00 | 0.61        | 353.20  | 3,391.72 | 2.74 N            | 3.07 E   | 472,056.86      | 736,280.00 | 0.35        | -2.72    | -33.84   |          |
| 3,486.00 | 0.72        | 319.09  | 3,485.71 | 3.68 N            | 2.62 E   | 472,057.80      | 736,279.55 | 0.43        | -3.67    | -91.97   |          |
| 3,580.00 | 1.12        | 237.92  | 3,579.70 | 3.64 N            | 1.45 E   | 472,057.76      | 736,278.38 | 1.31        | -3.63    | -116.34  |          |
| 3,675.00 | 1.21        | 230.07  | 3,674.68 | 2.50 N            | 0.10 W   | 472,056.62      | 736,276.83 | 0.19        | -2.50    | -64.54   |          |
| 3,769.00 | 0.38        | 171.04  | 3,768.68 | 1.56 N            | 0.81 W   | 472,055.68      | 736,276.12 | 1.13        | -1.56    | -162.19  |          |
| 3,863.00 | 0.30        | 112.25  | 3,862.67 | 1.16 N            | 0.54 W   | 472,055.28      | 736,276.39 | 0.36        | -1.16    | -131.19  |          |
| 3,958.00 | 0.91        | 123.74  | 3,957.67 | 0.64 N            | 0.32 E   | 472,054.76      | 736,277.25 | 0.65        | -0.64    | 17.03    |          |
| 4,052.00 | 2.40        | 132.78  | 4,051.63 | 1.11 S            | 2.39 E   | 472,053.01      | 736,279.32 | 1.60        | 1.12     | 14.48    |          |
| 4,146.00 | 2.00        | 123.63  | 4,145.56 | 3.35 S            | 5.20 E   | 472,050.77      | 736,282.13 | 0.57        | 3.38     | -143.22  |          |
| 4,241.00 | 1.21        | 115.02  | 4,240.52 | 4.70 S            | 7.48 E   | 472,049.42      | 736,284.41 | 0.87        | 4.74     | -167.30  |          |
| 4,335.00 | 2.00        | 128.04  | 4,334.48 | 6.13 S            | 9.68 E   | 472,047.99      | 736,286.61 | 0.92        | 6.18     | 31.38    |          |
| 4,429.00 | 2.14        | 119.52  | 4,428.42 | 8.00 S            | 12.50 E  | 472,046.12      | 736,289.43 | 0.36        | 8.08     | -69.84   |          |
| 4,524.00 | 1.50        | 87.93   | 4,523.38 | 8.83 S            | 15.28 E  | 472,045.29      | 736,292.21 | 1.23        | 8.92     | -137.66  |          |
| 4,618.00 | 1.31        | 105.38  | 4,617.35 | 9.07 S            | 17.55 E  | 472,045.05      | 736,294.48 | 0.50        | 9.17     | 122.50   |          |
| 4,642.66 | 1.28        | 109.66  | 4,642.00 | 9.24 S            | 18.08 E  | 472,044.88      | 736,295.01 | 0.41        | 9.35     | 109.06   | 9 5/8"   |
| 4,706.00 | 1.24        | 121.33  | 4,705.33 | 9.83 S            | 19.33 E  | 472,044.29      | 736,296.26 | 0.41        | 9.95     | 104.79   |          |
| 4,800.00 | 0.58        | 251.07  | 4,799.32 | 10.52 S           | 19.75 E  | 472,043.60      | 736,296.68 | 1.78        | 10.63    | 164.52   |          |
| 4,895.00 | 1.73        | 270.39  | 4,894.30 | 10.66 S           | 17.86 E  | 472,043.46      | 736,294.79 | 1.26        | 10.77    | 28.53    |          |
| 4,989.00 | 3.39        | 271.71  | 4,988.20 | 10.57 S           | 13.66 E  | 472,043.55      | 736,290.59 | 1.77        | 10.65    | 2.69     |          |
| 5,083.00 | 4.89        | 272.31  | 5,081.95 | 10.33 S           | 6.88 E   | 472,043.79      | 736,283.81 | 1.60        | 10.37    | 1.95     |          |
| 5,178.00 | 6.41        | 273.09  | 5,176.49 | 9.88 S            | 2.46 W   | 472,044.24      | 736,274.47 | 1.60        | 9.86     | 3.28     |          |
| 5,272.00 | 7.76        | 270.05  | 5,269.77 | 9.59 S            | 14.05 W  | 472,044.53      | 736,262.88 | 1.49        | 9.50     | -17.03   |          |
| 5,366.00 | 9.62        | 270.04  | 5,362.69 | 9.58 S            | 28.25 W  | 472,044.54      | 736,248.68 | 1.98        | 9.41     | -0.05    |          |
| 5,460.00 | 10.43       | 269.09  | 5,455.25 | 9.71 S            | 44.61 W  | 472,044.41      | 736,232.32 | 0.88        | 9.44     | -12.01   |          |
| 5,554.00 | 10.29       | 268.67  | 5,547.72 | 10.04 S           | 61.51 W  | 472,044.08      | 736,215.42 | 0.17        | 9.67     | -151.86  |          |
| 5,648.00 | 10.13       | 267.76  | 5,640.23 | 10.55 S           | 78.16 W  | 472,043.57      | 736,198.77 | 0.24        | 10.09    | -135.21  |          |
| 5,742.00 | 10.03       | 267.83  | 5,732.78 | 11.19 S           | 94.60 W  | 472,042.93      | 736,182.33 | 0.11        | 10.63    | 173.05   |          |
| 5,836.00 | 9.90        | 268.35  | 5,825.36 | 11.73 S           | 110.86 W | 472,042.39      | 736,166.07 | 0.17        | 11.07    | 145.57   |          |
| 5,930.00 | 9.59        | 267.17  | 5,918.00 | 12.35 S           | 126.76 W | 472,041.77      | 736,150.17 | 0.39        | 11.60    | -147.79  |          |
| 6,025.00 | 9.50        | 266.54  | 6,011.69 | 13.21 S           | 142.49 W | 472,040.91      | 736,134.44 | 0.15        | 12.37    | -131.06  |          |
| 6,119.00 | 10.10       | 270.92  | 6,104.32 | 13.55 S           | 158.47 W | 472,040.57      | 736,118.46 | 1.02        | 12.61    | 53.34    |          |
| 6,214.00 | 10.49       | 273.89  | 6,197.79 | 12.83 S           | 175.43 W | 472,041.29      | 736,101.50 | 0.69        | 11.79    | 55.16    |          |
| 6,308.00 | 10.30       | 267.79  | 6,290.25 | 12.57 S           | 192.37 W | 472,041.55      | 736,084.56 | 1.19        | 11.43    | -102.79  |          |
| 6,402.00 | 10.51       | 264.21  | 6,382.70 | 13.76 S           | 209.29 W | 472,040.36      | 736,067.64 | 0.72        | 12.52    | -73.77   |          |
| 6,497.00 | 10.49       | 265.83  | 6,476.11 | 15.26 S           | 226.54 W | 472,038.86      | 736,050.39 | 0.31        | 13.92    | 94.67    |          |
| 6,591.00 | 10.40       | 267.48  | 6,568.56 | 16.26 S           | 243.55 W | 472,037.86      | 736,033.38 | 0.33        | 14.81    | 107.56   |          |

## Design Report for James 20-29 Federal Com 37H - Wellbore #1

| Measured  |             | Grid    | Vertical | Local Coordinates |          | Map Coordinates |            | Dogleg      | Vertical | Toolface | Comments |
|-----------|-------------|---------|----------|-------------------|----------|-----------------|------------|-------------|----------|----------|----------|
| Depth     | Inclination | Azimuth | Depth    | Northing          | Easting  | Northing        | Easting    | Rate        | Section  | Angle    |          |
| (usft)    | (°)         | (°)     | (usft)   | (usft)            | (usft)   | (usft)          | (usft)     | (°/100usft) | (usft)   | (°)      |          |
| 6,685.00  | 10.02       | 267.06  | 6,661.07 | 17.05 S           | 260.19 W | 472,037.07      | 736,016.74 | 0.41        | 15.51    | -169.12  |          |
| 6,779.00  | 10.04       | 265.89  | 6,753.63 | 18.06 S           | 276.53 W | 472,036.06      | 736,000.40 | 0.22        | 16.42    | -84.97   |          |
| 6,874.00  | 9.82        | 265.95  | 6,847.21 | 19.22 S           | 292.87 W | 472,034.90      | 735,984.06 | 0.23        | 17.49    | 177.34   |          |
| 6,968.00  | 9.42        | 264.00  | 6,939.89 | 20.59 S           | 308.52 W | 472,033.53      | 735,968.41 | 0.55        | 18.76    | -141.79  |          |
| 7,062.00  | 9.84        | 266.84  | 7,032.56 | 21.84 S           | 324.19 W | 472,032.28      | 735,952.74 | 0.67        | 19.92    | 49.93    |          |
| 7,156.00  | 10.17       | 269.74  | 7,125.13 | 22.32 S           | 340.51 W | 472,031.80      | 735,936.42 | 0.64        | 20.30    | 58.21    |          |
| 7,250.00  | 9.64        | 269.64  | 7,217.73 | 22.41 S           | 356.68 W | 472,031.71      | 735,920.25 | 0.56        | 20.29    | -178.19  |          |
| 7,344.00  | 9.13        | 268.94  | 7,310.47 | 22.60 S           | 372.00 W | 472,031.52      | 735,904.93 | 0.56        | 20.39    | -167.73  |          |
| 7,438.00  | 8.67        | 266.87  | 7,403.34 | 23.12 S           | 386.54 W | 472,031.00      | 735,890.39 | 0.60        | 20.83    | -146.17  |          |
| 7,532.00  | 8.92        | 265.92  | 7,496.24 | 24.03 S           | 400.88 W | 472,030.09      | 735,876.05 | 0.31        | 21.65    | -30.63   |          |
| 7,626.00  | 9.70        | 264.95  | 7,589.00 | 25.24 S           | 416.04 W | 472,028.88      | 735,860.89 | 0.85        | 22.77    | -11.85   |          |
| 7,721.00  | 10.01       | 267.28  | 7,682.60 | 26.34 S           | 432.26 W | 472,027.78      | 735,844.67 | 0.53        | 23.77    | 53.29    |          |
| 7,815.00  | 9.60        | 269.52  | 7,775.22 | 26.79 S           | 448.25 W | 472,027.33      | 735,828.68 | 0.60        | 24.13    | 138.16   |          |
| 7,909.00  | 9.24        | 270.03  | 7,867.95 | 26.85 S           | 463.64 W | 472,027.27      | 735,813.29 | 0.39        | 24.10    | 167.20   |          |
| 8,003.00  | 9.10        | 268.48  | 7,960.75 | 27.05 S           | 478.62 W | 472,027.07      | 735,798.31 | 0.30        | 24.21    | -120.31  |          |
| 8,097.00  | 8.35        | 266.89  | 8,053.67 | 27.61 S           | 492.86 W | 472,026.51      | 735,784.07 | 0.84        | 24.69    | -162.96  |          |
| 8,191.00  | 7.85        | 263.76  | 8,146.73 | 28.68 S           | 506.06 W | 472,025.44      | 735,770.87 | 0.71        | 25.68    | -140.13  |          |
| 8,285.00  | 6.45        | 265.78  | 8,239.99 | 29.77 S           | 517.71 W | 472,024.35      | 735,759.22 | 1.51        | 26.70    | 170.82   |          |
| 8,379.00  | 5.25        | 273.92  | 8,333.50 | 29.86 S           | 527.26 W | 472,024.26      | 735,749.67 | 1.55        | 26.73    | 149.34   |          |
| 8,474.00  | 3.67        | 277.07  | 8,428.21 | 29.19 S           | 534.62 W | 472,024.93      | 735,742.31 | 1.68        | 26.02    | 172.76   |          |
| 8,568.00  | 1.74        | 276.01  | 8,522.11 | 28.67 S           | 539.02 W | 472,025.45      | 735,737.91 | 2.05        | 25.47    | -179.04  |          |
| 8,662.00  | 1.13        | 265.44  | 8,616.08 | 28.60 S           | 541.37 W | 472,025.52      | 735,735.56 | 0.70        | 25.38    | -161.77  |          |
| 8,757.00  | 0.48        | 264.04  | 8,711.07 | 28.71 S           | 542.70 W | 472,025.41      | 735,734.23 | 0.68        | 25.49    | -178.97  |          |
| 8,851.00  | 0.68        | 359.54  | 8,805.06 | 28.19 S           | 543.09 W | 472,025.93      | 735,733.84 | 0.92        | 24.97    | 128.85   |          |
| 8,945.00  | 0.95        | 339.66  | 8,899.05 | 26.91 S           | 543.37 W | 472,027.21      | 735,733.56 | 0.41        | 23.68    | -56.55   |          |
| 9,039.00  | 1.15        | 353.48  | 8,993.04 | 25.24 S           | 543.74 W | 472,028.88      | 735,733.19 | 0.34        | 22.01    | 58.75    |          |
| 9,134.00  | 0.77        | 30.39   | 9,088.02 | 23.74 S           | 543.53 W | 472,030.38      | 735,733.40 | 0.74        | 20.52    | 139.12   |          |
| 9,228.00  | 1.50        | 61.99   | 9,182.01 | 22.62 S           | 542.12 W | 472,031.50      | 735,734.81 | 1.00        | 19.40    | 57.14    |          |
| 9,323.00  | 1.72        | 109.84  | 9,276.97 | 22.52 S           | 539.69 W | 472,031.60      | 735,737.24 | 1.39        | 19.32    | 105.16   |          |
| 9,417.00  | 2.08        | 74.55   | 9,370.92 | 22.54 S           | 536.71 W | 472,031.58      | 735,740.22 | 1.28        | 19.36    | -91.05   |          |
| 9,511.00  | 1.68        | 76.87   | 9,464.87 | 21.78 S           | 533.73 W | 472,032.34      | 735,743.20 | 0.43        | 18.61    | 170.38   |          |
| 9,606.00  | 1.04        | 75.22   | 9,559.85 | 21.24 S           | 531.54 W | 472,032.88      | 735,745.39 | 0.67        | 18.08    | -177.32  |          |
| 9,700.00  | 0.19        | 45.25   | 9,653.84 | 20.91 S           | 530.60 W | 472,033.21      | 735,746.33 | 0.94        | 17.76    | -173.81  |          |
| 9,794.00  | 0.79        | 115.41  | 9,747.84 | 21.08 S           | 529.91 W | 472,033.04      | 735,747.02 | 0.79        | 17.93    | 84.00    |          |
| 9,888.00  | 1.57        | 103.59  | 9,841.82 | 21.66 S           | 528.07 W | 472,032.46      | 735,748.86 | 0.86        | 18.53    | -23.30   |          |
| 9,929.00  | 2.05        | 91.12   | 9,882.80 | 21.81 S           | 526.79 W | 472,032.31      | 735,750.14 | 1.51        | 18.68    | -45.71   |          |
| 10,010.00 | 0.98        | 58.50   | 9,963.77 | 21.47 S           | 524.75 W | 472,032.65      | 735,752.18 | 1.65        | 18.36    | -156.66  |          |

## Design Report for James 20-29 Federal Com 37H - Wellbore #1

| Measured        |                    | Grid           | Vertical        | Local Coordinates  |                   | Map Coordinates    |                   | Dogleg              | Vertical          | Toolface     | Comments |
|-----------------|--------------------|----------------|-----------------|--------------------|-------------------|--------------------|-------------------|---------------------|-------------------|--------------|----------|
| Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Depth<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | Rate<br>(°/100usft) | Section<br>(usft) | Angle<br>(°) |          |
| 10,104.00       | 0.35               | 196.49         | 10,057.76       | 21.33 S            | 524.15 W          | 472,032.79         | 735,752.78        | 1.34                | 18.22             | 169.30       |          |
| 10,135.00       | 4.58               | 174.83         | 10,088.73       | 22.65 S            | 524.06 W          | 472,031.47         | 735,752.87        | 13.73               | 19.54             | -23.40       |          |
| 10,167.00       | 8.89               | 176.94         | 10,120.50       | 26.40 S            | 523.82 W          | 472,027.72         | 735,753.11        | 13.49               | 23.29             | 4.34         |          |
| 10,198.00       | 13.57              | 179.94         | 10,150.90       | 32.43 S            | 523.68 W          | 472,021.69         | 735,753.25        | 15.21               | 29.32             | 8.59         |          |
| 10,230.00       | 18.31              | 181.51         | 10,181.66       | 41.21 S            | 523.81 W          | 472,012.91         | 735,753.12        | 14.87               | 38.10             | 5.95         |          |
| 10,261.00       | 22.58              | 182.54         | 10,210.70       | 52.03 S            | 524.20 W          | 472,002.09         | 735,752.73        | 13.82               | 48.92             | 5.30         |          |
| 10,293.00       | 26.08              | 180.94         | 10,239.85       | 65.21 S            | 524.59 W          | 471,988.91         | 735,752.34        | 11.13               | 62.09             | -11.40       |          |
| 10,324.00       | 28.57              | 179.24         | 10,267.39       | 79.43 S            | 524.61 W          | 471,974.69         | 735,752.32        | 8.42                | 76.32             | -18.16       |          |
| 10,355.00       | 30.74              | 177.81         | 10,294.33       | 94.76 S            | 524.20 W          | 471,959.36         | 735,752.73        | 7.36                | 91.65             | -18.68       |          |
| 10,387.00       | 33.49              | 177.25         | 10,321.43       | 111.76 S           | 523.47 W          | 471,942.36         | 735,753.46        | 8.64                | 108.65            | -6.42        |          |
| 10,418.00       | 37.15              | 177.74         | 10,346.72       | 129.66 S           | 522.69 W          | 471,924.46         | 735,754.24        | 11.84               | 126.56            | 4.63         |          |
| 10,450.00       | 40.34              | 178.51         | 10,371.68       | 149.67 S           | 522.04 W          | 471,904.45         | 735,754.89        | 10.08               | 146.57            | 8.89         |          |
| 10,481.00       | 42.56              | 179.43         | 10,394.91       | 170.19 S           | 521.67 W          | 471,883.93         | 735,755.26        | 7.43                | 167.09            | 15.69        |          |
| 10,513.00       | 46.01              | 180.27         | 10,417.82       | 192.53 S           | 521.62 W          | 471,861.59         | 735,755.31        | 10.94               | 189.43            | 9.95         |          |
| 10,544.00       | 50.15              | 182.03         | 10,438.52       | 215.58 S           | 522.09 W          | 471,838.54         | 735,754.84        | 14.01               | 212.48            | 18.15        |          |
| 10,576.00       | 53.25              | 182.48         | 10,458.35       | 240.67 S           | 523.08 W          | 471,813.45         | 735,753.85        | 9.75                | 237.57            | 6.64         |          |
| 10,607.00       | 57.33              | 181.41         | 10,476.00       | 266.14 S           | 523.94 W          | 471,787.98         | 735,752.99        | 13.46               | 263.02            | -12.47       |          |
| 10,639.00       | 61.94              | 180.47         | 10,492.17       | 293.74 S           | 524.39 W          | 471,760.38         | 735,752.54        | 14.63               | 290.62            | -10.22       |          |
| 10,670.00       | 66.33              | 180.24         | 10,505.69       | 321.62 S           | 524.56 W          | 471,732.50         | 735,752.37        | 14.18               | 318.50            | -2.75        |          |
| 10,701.00       | 70.92              | 179.89         | 10,516.99       | 350.48 S           | 524.59 W          | 471,703.64         | 735,752.34        | 14.84               | 347.36            | -4.13        |          |
| 10,733.00       | 75.18              | 179.20         | 10,526.32       | 381.08 S           | 524.35 W          | 471,673.04         | 735,752.58        | 13.47               | 377.97            | -8.91        |          |
| 10,764.00       | 78.03              | 179.03         | 10,533.50       | 411.23 S           | 523.88 W          | 471,642.89         | 735,753.05        | 9.21                | 408.12            | -3.34        |          |
| 10,796.00       | 81.93              | 178.24         | 10,539.07       | 442.73 S           | 523.13 W          | 471,611.39         | 735,753.80        | 12.43               | 439.62            | -11.35       |          |
| 10,827.00       | 86.51              | 178.52         | 10,542.19       | 473.55 S           | 522.26 W          | 471,580.57         | 735,754.67        | 14.80               | 470.45            | 3.50         |          |
| 10,858.00       | 88.99              | 178.56         | 10,543.40       | 504.52 S           | 521.47 W          | 471,549.60         | 735,755.46        | 8.00                | 501.41            | 0.92         |          |
| 10,953.00       | 91.48              | 179.25         | 10,543.01       | 599.49 S           | 519.65 W          | 471,454.63         | 735,757.28        | 2.72                | 596.40            | 15.49        |          |
| 10,996.00       | 92.75              | 179.53         | 10,541.43       | 642.46 S           | 519.20 W          | 471,411.66         | 735,757.73        | 3.02                | 639.37            | 12.42        |          |
| 11,091.00       | 92.97              | 179.48         | 10,536.69       | 737.34 S           | 518.38 W          | 471,316.78         | 735,758.55        | 0.24                | 734.25            | -12.79       |          |
| 11,185.00       | 91.23              | 179.66         | 10,533.24       | 831.27 S           | 517.67 W          | 471,222.85         | 735,759.26        | 1.86                | 828.18            | 174.09       |          |
| 11,280.00       | 90.41              | 180.84         | 10,531.88       | 926.25 S           | 518.09 W          | 471,127.87         | 735,758.84        | 1.51                | 923.16            | 124.79       |          |
| 11,374.00       | 90.22              | 180.89         | 10,531.37       | 1,020.24 S         | 519.51 W          | 471,033.88         | 735,757.42        | 0.21                | 1,017.14          | 165.26       |          |
| 11,469.00       | 90.14              | 180.68         | 10,531.07       | 1,115.23 S         | 520.81 W          | 470,938.89         | 735,756.12        | 0.24                | 1,112.12          | -110.85      |          |
| 11,563.00       | 90.18              | 181.03         | 10,530.81       | 1,209.22 S         | 522.21 W          | 470,844.90         | 735,754.72        | 0.37                | 1,206.10          | 83.48        |          |
| 11,657.00       | 90.09              | 180.40         | 10,530.58       | 1,303.21 S         | 523.38 W          | 470,750.91         | 735,753.55        | 0.68                | 1,300.08          | -98.13       |          |
| 11,751.00       | 90.46              | 180.55         | 10,530.13       | 1,397.21 S         | 524.16 W          | 470,656.91         | 735,752.77        | 0.42                | 1,394.07          | 22.07        |          |
| 11,845.00       | 89.85              | 180.46         | 10,529.88       | 1,491.20 S         | 524.99 W          | 470,562.92         | 735,751.94        | 0.66                | 1,488.06          | -171.61      |          |

## Design Report for James 20-29 Federal Com 37H - Wellbore #1

| Measured                                                     |             | Grid    | Vertical  | Local Coordinates |          | Map Coordinates |            | Dogleg      | Vertical | Toolface | Comments |
|--------------------------------------------------------------|-------------|---------|-----------|-------------------|----------|-----------------|------------|-------------|----------|----------|----------|
| Depth                                                        | Inclination | Azimuth | Depth     | Northing          | Easting  | Northing        | Easting    | Rate        | Section  | Angle    |          |
| (usft)                                                       | (°)         | (°)     | (usft)    | (usft)            | (usft)   | (usft)          | (usft)     | (°/100usft) | (usft)   | (°)      |          |
| 11,939.00                                                    | 89.62       | 180.29  | 10,530.31 | 1,585.20 S        | 525.61 W | 470,468.92      | 735,751.32 | 0.30        | 1,582.05 | -143.53  |          |
| 12,033.00                                                    | 89.44       | 179.85  | 10,531.08 | 1,679.20 S        | 525.72 W | 470,374.92      | 735,751.21 | 0.51        | 1,676.05 | -112.25  |          |
| 12,128.00                                                    | 89.93       | 180.07  | 10,531.61 | 1,774.20 S        | 525.65 W | 470,279.92      | 735,751.28 | 0.57        | 1,771.04 | 24.18    |          |
| 12,222.00                                                    | 90.37       | 180.63  | 10,531.36 | 1,868.19 S        | 526.23 W | 470,185.93      | 735,750.70 | 0.76        | 1,865.04 | 51.84    |          |
| 12,316.00                                                    | 89.77       | 178.96  | 10,531.25 | 1,962.19 S        | 525.89 W | 470,091.93      | 735,751.04 | 1.89        | 1,959.03 | -109.76  |          |
| 12,411.00                                                    | 89.80       | 178.49  | 10,531.60 | 2,057.16 S        | 523.78 W | 469,996.96      | 735,753.15 | 0.50        | 2,054.02 | -86.35   |          |
| 12,505.00                                                    | 90.05       | 178.30  | 10,531.72 | 2,151.13 S        | 521.15 W | 469,902.99      | 735,755.78 | 0.33        | 2,148.00 | -37.23   |          |
| 12,600.00                                                    | 90.02       | 179.04  | 10,531.67 | 2,246.10 S        | 518.94 W | 469,808.02      | 735,757.99 | 0.78        | 2,242.98 | 92.32    |          |
| 12,694.00                                                    | 89.67       | 180.20  | 10,531.92 | 2,340.10 S        | 518.32 W | 469,714.02      | 735,758.61 | 1.29        | 2,336.98 | 106.79   |          |
| 12,788.00                                                    | 89.67       | 179.09  | 10,532.46 | 2,434.09 S        | 517.73 W | 469,620.03      | 735,759.20 | 1.18        | 2,430.98 | -90.00   |          |
| 12,882.00                                                    | 89.72       | 178.33  | 10,532.96 | 2,528.07 S        | 515.62 W | 469,526.05      | 735,761.31 | 0.81        | 2,524.96 | -86.24   |          |
| 12,976.00                                                    | 89.73       | 179.65  | 10,533.41 | 2,622.05 S        | 513.96 W | 469,432.07      | 735,762.97 | 1.40        | 2,618.95 | 89.57    |          |
| 13,071.00                                                    | 89.71       | 179.59  | 10,533.88 | 2,717.04 S        | 513.33 W | 469,337.08      | 735,763.60 | 0.07        | 2,713.95 | -108.44  |          |
| 13,165.00                                                    | 89.64       | 179.54  | 10,534.41 | 2,811.04 S        | 512.62 W | 469,243.08      | 735,764.31 | 0.09        | 2,807.95 | -144.46  |          |
| 13,259.00                                                    | 89.44       | 178.94  | 10,535.17 | 2,905.03 S        | 511.37 W | 469,149.09      | 735,765.56 | 0.67        | 2,901.94 | -108.44  |          |
| 13,354.00                                                    | 90.22       | 178.82  | 10,535.45 | 3,000.01 S        | 509.51 W | 469,054.11      | 735,767.42 | 0.83        | 2,996.93 | -8.75    |          |
| 13,448.00                                                    | 90.05       | 178.77  | 10,535.23 | 3,093.99 S        | 507.54 W | 468,960.13      | 735,769.39 | 0.19        | 3,090.92 | -163.61  |          |
| 13,542.00                                                    | 90.56       | 179.72  | 10,534.73 | 3,187.98 S        | 506.30 W | 468,866.14      | 735,770.63 | 1.15        | 3,184.92 | 61.77    |          |
| 13,636.00                                                    | 90.40       | 179.27  | 10,533.94 | 3,281.97 S        | 505.47 W | 468,772.15      | 735,771.46 | 0.51        | 3,278.91 | -109.57  |          |
| 13,730.00                                                    | 89.94       | 179.09  | 10,533.66 | 3,375.96 S        | 504.13 W | 468,678.16      | 735,772.80 | 0.53        | 3,372.91 | -158.63  |          |
| 13,824.00                                                    | 90.33       | 178.95  | 10,533.44 | 3,469.95 S        | 502.52 W | 468,584.17      | 735,774.41 | 0.44        | 3,466.90 | -19.75   |          |
| 13,919.00                                                    | 90.35       | 179.96  | 10,532.87 | 3,564.94 S        | 501.61 W | 468,489.18      | 735,775.32 | 1.06        | 3,561.90 | 88.86    |          |
| 14,013.00                                                    | 89.65       | 179.32  | 10,532.87 | 3,658.94 S        | 501.02 W | 468,395.18      | 735,775.91 | 1.01        | 3,655.90 | -137.56  |          |
| 14,108.00                                                    | 90.20       | 179.60  | 10,533.00 | 3,753.93 S        | 500.13 W | 468,300.19      | 735,776.80 | 0.65        | 3,750.90 | 26.98    |          |
| 14,202.00                                                    | 90.25       | 179.75  | 10,532.63 | 3,847.93 S        | 499.60 W | 468,206.19      | 735,777.33 | 0.17        | 3,844.90 | 71.56    |          |
| 14,296.00                                                    | 90.21       | 179.59  | 10,532.25 | 3,941.93 S        | 499.05 W | 468,112.19      | 735,777.88 | 0.18        | 3,938.90 | -104.04  |          |
| 14,390.00                                                    | 90.49       | 178.90  | 10,531.68 | 4,035.92 S        | 497.82 W | 468,018.20      | 735,779.11 | 0.79        | 4,032.89 | -67.91   |          |
| 14,485.00                                                    | 89.81       | 179.83  | 10,531.43 | 4,130.91 S        | 496.76 W | 467,923.21      | 735,780.17 | 1.21        | 4,127.89 | 126.17   |          |
| 14,579.00                                                    | 89.35       | 179.59  | 10,532.12 | 4,224.90 S        | 496.29 W | 467,829.22      | 735,780.64 | 0.55        | 4,221.88 | -152.45  |          |
| 14,674.00                                                    | 90.05       | 179.87  | 10,532.62 | 4,319.90 S        | 495.84 W | 467,734.22      | 735,781.09 | 0.79        | 4,316.88 | 21.80    |          |
| 14,768.00                                                    | 90.36       | 179.60  | 10,532.28 | 4,413.90 S        | 495.40 W | 467,640.22      | 735,781.53 | 0.44        | 4,410.88 | -41.05   |          |
| 14,862.00                                                    | 90.34       | 179.35  | 10,531.71 | 4,507.89 S        | 494.54 W | 467,546.23      | 735,782.39 | 0.27        | 4,504.88 | -94.57   |          |
| 14,957.00                                                    | 89.47       | 179.69  | 10,531.86 | 4,602.89 S        | 493.75 W | 467,451.23      | 735,783.18 | 0.98        | 4,599.88 | 158.65   |          |
| 15,051.00                                                    | 89.13       | 180.00  | 10,533.01 | 4,696.88 S        | 493.49 W | 467,357.24      | 735,783.44 | 0.49        | 4,693.87 | 137.65   |          |
| 15,145.00                                                    | 89.37       | 181.43  | 10,534.24 | 4,790.86 S        | 494.67 W | 467,263.26      | 735,782.26 | 1.54        | 4,787.84 | 80.48    |          |
| 15,238.00                                                    | 89.22       | 182.24  | 10,535.38 | 4,883.81 S        | 497.65 W | 467,170.31      | 735,779.28 | 0.89        | 4,880.77 | 100.25   |          |
| Sec. Crossing @ 15238'MD (0.54' FNL, 328.29' FWL of Sec. 29) |             |         |           |                   |          |                 |            |             |          |          |          |

## Design Report for James 20-29 Federal Com 37H - Wellbore #1

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Grid<br>Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | Local Coordinates  |                   | Map Coordinates    |                   | Dogleg<br>Rate<br>(°/100usft) | Vertical<br>Section<br>(usft) | Toolface<br>Angle<br>(°) | Comments |
|-----------------------------|--------------------|------------------------|-----------------------------|--------------------|-------------------|--------------------|-------------------|-------------------------------|-------------------------------|--------------------------|----------|
|                             |                    |                        |                             | Northing<br>(usft) | Easting<br>(usft) | Northing<br>(usft) | Easting<br>(usft) |                               |                               |                          |          |
| 15,240.00                   | 89.22              | 182.26                 | 10,535.41                   | 4,885.81 S         | 497.72 W          | 467,168.31         | 735,779.21        | 0.89                          | 4,882.77                      | 100.24                   |          |
| 15,334.00                   | 89.41              | 182.03                 | 10,536.53                   | 4,979.73 S         | 501.24 W          | 467,074.39         | 735,775.69        | 0.32                          | 4,976.67                      | -50.44                   |          |
| 15,428.00                   | 89.60              | 181.91                 | 10,537.35                   | 5,073.67 S         | 504.47 W          | 466,980.45         | 735,772.46        | 0.24                          | 5,070.59                      | -32.28                   |          |
| 15,522.00                   | 90.15              | 181.55                 | 10,537.55                   | 5,167.63 S         | 507.31 W          | 466,886.49         | 735,769.62        | 0.70                          | 5,164.53                      | -33.21                   |          |
| 15,617.00                   | 90.17              | 180.98                 | 10,537.29                   | 5,262.61 S         | 509.41 W          | 466,791.51         | 735,767.52        | 0.60                          | 5,259.49                      | -87.99                   |          |
| 15,712.00                   | 90.28              | 180.42                 | 10,536.91                   | 5,357.60 S         | 510.57 W          | 466,696.52         | 735,766.36        | 0.60                          | 5,354.47                      | -78.89                   |          |
| 15,806.00                   | 90.20              | 179.23                 | 10,536.52                   | 5,451.60 S         | 510.28 W          | 466,602.52         | 735,766.65        | 1.27                          | 5,448.47                      | -93.84                   |          |
| 15,900.00                   | 90.17              | 178.52                 | 10,536.22                   | 5,545.58 S         | 508.44 W          | 466,508.54         | 735,768.49        | 0.76                          | 5,542.46                      | -92.42                   |          |
| 15,994.00                   | 89.72              | 178.18                 | 10,536.31                   | 5,639.54 S         | 505.73 W          | 466,414.58         | 735,771.20        | 0.60                          | 5,636.44                      | -142.93                  |          |
| 16,088.00                   | 90.28              | 178.24                 | 10,536.31                   | 5,733.49 S         | 502.79 W          | 466,320.63         | 735,774.14        | 0.60                          | 5,730.41                      | 6.12                     |          |
| 16,182.00                   | 90.40              | 177.97                 | 10,535.75                   | 5,827.44 S         | 499.69 W          | 466,226.68         | 735,777.24        | 0.31                          | 5,824.37                      | -66.04                   |          |
| 16,276.00                   | 90.33              | 177.94                 | 10,535.15                   | 5,921.38 S         | 496.33 W          | 466,132.74         | 735,780.60        | 0.08                          | 5,918.33                      | -156.80                  |          |
| 16,370.00                   | 90.11              | 178.04                 | 10,534.79                   | 6,015.32 S         | 493.03 W          | 466,038.80         | 735,783.90        | 0.26                          | 6,012.29                      | 155.56                   |          |
| 16,465.00                   | 90.05              | 178.44                 | 10,534.66                   | 6,110.27 S         | 490.12 W          | 465,943.85         | 735,786.81        | 0.43                          | 6,107.26                      | 98.53                    |          |
| 16,559.00                   | 90.13              | 177.98                 | 10,534.51                   | 6,204.23 S         | 487.18 W          | 465,849.89         | 735,789.75        | 0.50                          | 6,201.23                      | -80.13                   |          |
| 16,653.00                   | 90.53              | 178.26                 | 10,533.97                   | 6,298.17 S         | 484.10 W          | 465,755.95         | 735,792.83        | 0.52                          | 6,295.19                      | 34.99                    |          |
| 16,747.00                   | 90.42              | 178.28                 | 10,533.19                   | 6,392.13 S         | 481.26 W          | 465,661.99         | 735,795.67        | 0.12                          | 6,389.16                      | 169.70                   |          |
| 16,841.00                   | 90.36              | 178.23                 | 10,532.55                   | 6,486.08 S         | 478.40 W          | 465,568.04         | 735,798.53        | 0.08                          | 6,483.13                      | -140.19                  |          |
| 16,936.00                   | 89.84              | 179.36                 | 10,532.38                   | 6,581.06 S         | 476.40 W          | 465,473.06         | 735,800.53        | 1.31                          | 6,578.12                      | 114.71                   |          |
| 17,030.00                   | 90.14              | 180.10                 | 10,532.40                   | 6,675.06 S         | 475.96 W          | 465,379.06         | 735,800.97        | 0.85                          | 6,672.11                      | 67.93                    |          |
| 17,124.00                   | 90.17              | 180.05                 | 10,532.14                   | 6,769.06 S         | 476.08 W          | 465,285.06         | 735,800.85        | 0.06                          | 6,766.11                      | -59.04                   |          |
| 17,218.00                   | 89.93              | 179.64                 | 10,532.06                   | 6,863.06 S         | 475.82 W          | 465,191.06         | 735,801.11        | 0.51                          | 6,860.11                      | -120.34                  |          |
| 17,313.00                   | 90.07              | 179.33                 | 10,532.06                   | 6,958.05 S         | 474.97 W          | 465,096.07         | 735,801.96        | 0.36                          | 6,955.11                      | -65.70                   |          |
| 17,407.00                   | 90.72              | 179.39                 | 10,531.41                   | 7,052.04 S         | 473.92 W          | 465,002.08         | 735,803.01        | 0.69                          | 7,049.11                      | 5.27                     |          |
| 17,501.00                   | 90.25              | 179.45                 | 10,530.62                   | 7,146.03 S         | 472.97 W          | 464,908.09         | 735,803.96        | 0.50                          | 7,143.10                      | 172.72                   |          |
| 17,595.00                   | 90.53              | 179.74                 | 10,529.98                   | 7,240.03 S         | 472.30 W          | 464,814.09         | 735,804.63        | 0.43                          | 7,237.10                      | 46.00                    |          |
| 17,689.00                   | 90.01              | 180.07                 | 10,529.54                   | 7,334.03 S         | 472.15 W          | 464,720.09         | 735,804.78        | 0.66                          | 7,331.10                      | 147.60                   |          |
| 17,784.00                   | 89.99              | 180.25                 | 10,529.54                   | 7,429.03 S         | 472.41 W          | 464,625.09         | 735,804.52        | 0.19                          | 7,426.09                      | 96.34                    |          |
| 17,879.00                   | 89.01              | 179.83                 | 10,530.36                   | 7,524.02 S         | 472.48 W          | 464,530.10         | 735,804.45        | 1.12                          | 7,521.09                      | -156.80                  |          |
| 17,973.00                   | 89.67              | 179.60                 | 10,531.45                   | 7,618.01 S         | 472.01 W          | 464,436.11         | 735,804.92        | 0.74                          | 7,615.08                      | -19.21                   |          |
| 18,067.00                   | 89.60              | 179.54                 | 10,532.05                   | 7,712.01 S         | 471.31 W          | 464,342.11         | 735,805.62        | 0.10                          | 7,709.08                      | -139.40                  |          |
| 18,162.00                   | 90.17              | 180.24                 | 10,532.24                   | 7,807.01 S         | 471.12 W          | 464,247.11         | 735,805.81        | 0.95                          | 7,804.08                      | 50.85                    |          |
| 18,256.00                   | 89.93              | 180.27                 | 10,532.15                   | 7,901.01 S         | 471.54 W          | 464,153.11         | 735,805.39        | 0.26                          | 7,898.07                      | 172.87                   |          |
| 18,350.00                   | 90.57              | 180.09                 | 10,531.74                   | 7,995.01 S         | 471.84 W          | 464,059.11         | 735,805.09        | 0.71                          | 7,992.07                      | -15.71                   |          |
| 18,445.00                   | 89.67              | 179.46                 | 10,531.55                   | 8,090.00 S         | 471.47 W          | 463,964.12         | 735,805.46        | 1.16                          | 8,087.06                      | -145.01                  |          |
| 18,539.00                   | 89.89              | 179.49                 | 10,531.91                   | 8,184.00 S         | 470.60 W          | 463,870.12         | 735,806.33        | 0.24                          | 8,181.06                      | 7.77                     |          |
| 18,633.00                   | 90.33              | 179.78                 | 10,531.73                   | 8,278.00 S         | 470.01 W          | 463,776.12         | 735,806.92        | 0.56                          | 8,275.06                      | 33.39                    |          |

## Design Report for James 20-29 Federal Com 37H - Wellbore #1

| Measured Depth (usft) | Inclination (°) | Grid Azimuth (°) | Vertical Depth (usft) | Local Coordinates |                | Map Coordinates |                | Dogleg Rate (°/100usft) | Vertical Section (usft) | Toolface Angle (°) | Comments                                                     |
|-----------------------|-----------------|------------------|-----------------------|-------------------|----------------|-----------------|----------------|-------------------------|-------------------------|--------------------|--------------------------------------------------------------|
|                       |                 |                  |                       | Northing (usft)   | Easting (usft) | Northing (usft) | Easting (usft) |                         |                         |                    |                                                              |
| 18,728.00             | 89.55           | 179.54           | 10,531.83             | 8,372.99 S        | 469.44 W       | 463,681.13      | 735,807.49     | 0.86                    | 8,370.06                | -162.90            |                                                              |
| 18,823.00             | 90.09           | 179.67           | 10,532.12             | 8,467.99 S        | 468.79 W       | 463,586.13      | 735,808.14     | 0.58                    | 8,465.06                | 13.54              |                                                              |
| 18,917.00             | 89.94           | 179.74           | 10,532.10             | 8,561.99 S        | 468.30 W       | 463,492.13      | 735,808.63     | 0.18                    | 8,559.06                | 154.98             |                                                              |
| 19,012.00             | 89.67           | 179.52           | 10,532.42             | 8,656.99 S        | 467.69 W       | 463,397.13      | 735,809.24     | 0.37                    | 8,654.06                | -140.83            |                                                              |
| 19,107.00             | 89.80           | 179.83           | 10,532.86             | 8,751.98 S        | 467.15 W       | 463,302.14      | 735,809.78     | 0.35                    | 8,749.06                | 67.25              |                                                              |
| 19,201.00             | 91.14           | 179.65           | 10,532.09             | 8,845.98 S        | 466.72 W       | 463,208.14      | 735,810.21     | 1.44                    | 8,843.05                | -7.65              |                                                              |
| 19,296.00             | 90.38           | 179.59           | 10,530.83             | 8,940.97 S        | 466.09 W       | 463,113.15      | 735,810.84     | 0.80                    | 8,938.04                | -175.49            |                                                              |
| 19,391.00             | 90.27           | 179.48           | 10,530.29             | 9,035.96 S        | 465.32 W       | 463,018.16      | 735,811.61     | 0.16                    | 9,033.04                | -135.00            |                                                              |
| 19,485.00             | 90.15           | 180.56           | 10,529.95             | 9,129.96 S        | 465.36 W       | 462,924.16      | 735,811.57     | 1.16                    | 9,127.04                | 96.34              |                                                              |
| 19,579.00             | 90.02           | 180.19           | 10,529.81             | 9,223.96 S        | 465.97 W       | 462,830.16      | 735,810.96     | 0.42                    | 9,221.03                | -109.36            |                                                              |
| 19,674.00             | 90.24           | 180.05           | 10,529.59             | 9,318.96 S        | 466.17 W       | 462,735.16      | 735,810.76     | 0.27                    | 9,316.03                | -32.47             |                                                              |
| 19,768.00             | 90.74           | 180.27           | 10,528.79             | 9,412.95 S        | 466.43 W       | 462,641.17      | 735,810.50     | 0.58                    | 9,410.02                | 23.75              |                                                              |
| 19,863.00             | 90.15           | 180.46           | 10,528.05             | 9,507.95 S        | 467.04 W       | 462,546.17      | 735,809.89     | 0.65                    | 9,505.01                | 162.15             |                                                              |
| 19,957.00             | 89.95           | 180.75           | 10,527.97             | 9,601.94 S        | 468.03 W       | 462,452.18      | 735,808.90     | 0.37                    | 9,599.00                | 124.59             |                                                              |
| 20,051.00             | 90.02           | 181.38           | 10,527.99             | 9,695.93 S        | 469.78 W       | 462,358.19      | 735,807.15     | 0.67                    | 9,692.97                | 83.66              |                                                              |
| 20,145.00             | 90.40           | 180.69           | 10,527.65             | 9,789.91 S        | 471.48 W       | 462,264.21      | 735,805.45     | 0.84                    | 9,786.94                | -61.16             |                                                              |
| 20,173.00             | 90.34           | 180.50           | 10,527.47             | 9,817.91 S        | 471.77 W       | 462,236.21      | 735,805.16     | 0.71                    | 9,814.93                | -107.53            | Last MWD Survey @ 20173'MD                                   |
| 20,191.00             | 90.34           | 180.50           | 10,527.36             | 9,835.91 S        | 471.92 W       | 462,218.21      | 735,805.01     | 0.00                    | 9,832.93                | 0.00               | Proj. to TD @ 20191'MD (331.96' FSL, 324.80' FWL of Sec. 29) |

### Design Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment                                                      |
|-----------------------|-----------------------|-------------------|--------------|--------------------------------------------------------------|
|                       |                       | +N/-S (usft)      | +E/-W (usft) |                                                              |
| 176.00                | 176.00                | -0.70             | -0.71        | First MWD Survey @ 176'MD                                    |
| 15,238.00             | 10,535.38             | -4,883.81         | -497.65      | Sec. Crossing @ 15238'MD (0.54' FNL, 328.29' FWL of Sec. 29) |
| 20,173.00             | 10,527.47             | -9,817.91         | -471.77      | Last MWD Survey @ 20173'MD                                   |
| 20,191.00             | 10,527.36             | -9,835.91         | -471.92      | Proj. to TD @ 20191'MD (331.96' FSL, 324.80' FWL of Sec. 29) |

### Vertical Section Information

| Angle Type | Target               | Azimuth (°) | Origin Type | Origin       |              | Start TVD (usft) |
|------------|----------------------|-------------|-------------|--------------|--------------|------------------|
|            |                      |             |             | +N/-S (usft) | +E/-W (usft) |                  |
| User       | No Target (Freehand) | 179.66      | Slot        | 0.00         | 0.00         | 0.00             |

## Design Report for James 20-29 Federal Com 37H - Wellbore #1

### Survey tool program

| From<br>(usft) | To<br>(usft) | Survey/Plan             | Survey Tool   |
|----------------|--------------|-------------------------|---------------|
| 176.00         | 20,173.00    | MWD Surveys (Corrected) | 3_MWD+IFR1+MS |
| 20,191.00      | 20,191.00    | Projection to TD        | 3_Blind       |

### Casing Details

| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Name    | Casing<br>Diameter<br>(") | Hole<br>Diameter<br>(") |
|-----------------------------|-----------------------------|---------|---------------------------|-------------------------|
| 1,000.07                    | 1,000.00                    | 13 3/8" | 13-3/8                    | 17-1/2                  |
| 4,642.66                    | 4,642.00                    | 9 5/8"  | 9-5/8                     | 12-1/4                  |

### Design Targets

| Target Name       | Dip<br>Angle | Dip<br>Dir. | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|-------------------|--------------|-------------|-----|-------|-------|----------|---------|----------|-----------|
| - hit/miss target | ()           | ()          | ()  | ()    | ()    | ()       | ()      |          |           |
| - Shape           |              |             |     |       |       |          |         |          |           |
| ()                |              |             |     |       |       |          |         |          |           |

### Directional Difficulty Index

|                                    |                |                               |                                      |
|------------------------------------|----------------|-------------------------------|--------------------------------------|
| Average Dogleg over Survey:        | 1.08 °/100usft | Maximum Dogleg over Survey:   | 15.21 °/100usft at<br>10,198.00 usft |
| Net Tortosity applicable to Plans: | 0.30 °/100usft | Directional Difficulty Index: | 6.641                                |

### Audit Info

## North Reference Sheet for James 20-29 Federal Com Pad (Grid) - James 20-29 Federal Com 37H - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to RKB (H&P 380) 26' + GL(3677.6') @ 3703.60usft. Northing and Easting are relative to James 20-29 Federal Com 37H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is -104.3333333°, Longitude Origin:0.00000000°, Latitude Origin:0.00000000°

False Easting: 541,337.50usft, False Northing: 0.00usft, Scale Reduction: 0.99995261

Grid Coordinates of Well: 472,054.12 usft N, 736,276.93 usft E

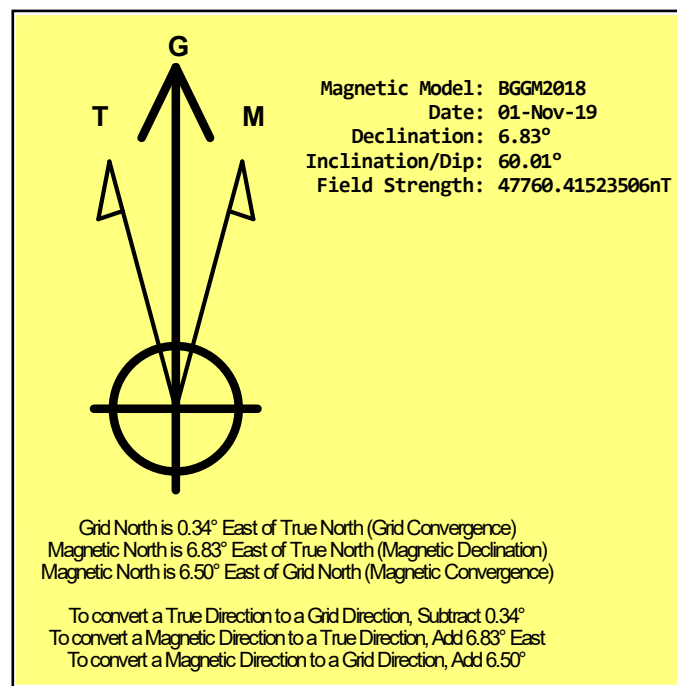
Geographical Coordinates of Well: 32.29617392, -103.70244132

Grid Convergence at Surface is: 0.34°

Based upon Minimum Curvature type calculations, at a Measured Depth of 20,191.00usft

the Bottom Hole Displacement is 9,847.22usft in the Direction of 182.75° (Grid).

Magnetic Convergence at surface is: -6.50° ( 1 November 2019, , BGGM2018)



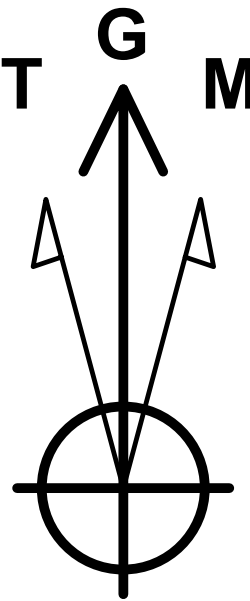


Cimarex

RKB (H&P 380) 26' + GL(3677.6') @ 3703.60usft  
3677.60

Project: Lea County, New Mexico (NAD83)  
Site: James 20-29 Federal Com Pad (Grid)  
Well: James 20-29 Federal Com 37H  
Wellbore: Wellbore #1  
Design: Wellbore #1  
Rig:

Map System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone Name: New Mexico Eastern Zone



Azimuths to Grid North  
True North: -0.34°  
Magnetic North: 6.50°

Magnetic Field  
Strength: 47760.4nT  
Dip Angle: 60.01°  
Date: 11/1/2019  
Model: BGGM2018

| WELL DETAILS    |       |           |          |           |         |             |           |                                                              |
|-----------------|-------|-----------|----------|-----------|---------|-------------|-----------|--------------------------------------------------------------|
| 3677.60         |       |           |          |           |         |             |           |                                                              |
| +N/-S           | +E/-W | Northing  |          | Easting   |         | Latitude    |           | Longitude                                                    |
| 0.00            | 0.00  | 472054.12 |          | 736276.93 |         | 32.29617393 |           | -103.70244132                                                |
| SECTION DETAILS |       |           |          |           |         |             |           |                                                              |
| MD              | Inc   | Azi       | TVD      | +N/-S     | +E/-W   | VSect       | Departure | Annotation                                                   |
| 176.00          | 0.65  | 225.28    | 176.00   | -0.70     | -0.71   | 0.70        | 1.00      | First MWD Survey @ 176'MD                                    |
| 15238.00        | 89.22 | 182.24    | 10535.38 | -4883.81  | -497.65 | 4880.77     | 5524.33   | Sec. Crossing @ 15238'MD (0.54' FNL, 328.29' FWL of Sec. 29) |
| 20173.00        | 90.34 | 180.50    | 10527.47 | -9817.91  | -471.77 | 9814.93     | 10459.24  | Last MWD Survey @ 20173'MD                                   |
| 20191.00        | 90.34 | 180.50    | 10527.36 | -9835.91  | -471.92 | 9832.93     | 10477.24  | Proj. to TD @ 20191'MD (331.96' FSL, 324.80' FWL of Sec. 29) |

