

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

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

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

|                                                                                                           |                                         |                                                                       |                                  |
|-----------------------------------------------------------------------------------------------------------|-----------------------------------------|-----------------------------------------------------------------------|----------------------------------|
| <sup>1</sup> Operator name and Address<br>LOGOS Operating, LLC<br>2010 Afton Place<br>Farmington NM 87401 |                                         | <sup>2</sup> OGRID Number<br>289408                                   |                                  |
|                                                                                                           |                                         | <sup>3</sup> Reason for Filing Code/ Effective Date<br>Test Allowable |                                  |
| <sup>4</sup> API Number<br>30-039-31383                                                                   | <sup>5</sup> Pool Name<br>Basin Mancos  |                                                                       | <sup>6</sup> Pool Code<br>97232  |
| <sup>7</sup> Property Code<br>320608                                                                      | <sup>8</sup> Property Name<br>Rosa Unit |                                                                       | <sup>9</sup> Well Number<br>656H |

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     |
| A             | 25      | 31N      | 6W    | 1       | 1068          | FNL              | 289           | FEL            | Rio Arriba |

<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     |
| E                           | 28                                          | 31N                                  | 5W                                |         | 1378                               | FNL              | 1215                                | FWL            | Rio Arriba |
| <sup>12</sup> Lse Code<br>F | <sup>13</sup> Producing Method<br>Code<br>F | <sup>14</sup> Gas Connection<br>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<br>OGRID | <sup>19</sup> Transporter Name<br>and Address                       | <sup>20</sup> O/G/W<br>G |
| 373888                             | Harvest Four Corners, LLC<br>1755 Arroyo Dr.<br>Bloomfield NM 87413 |                          |
|                                    |                                                                     |                          |
|                                    |                                                                     |                          |
|                                    |                                                                     |                          |
|                                    |                                                                     |                          |
|                                    |                                                                     |                          |
|                                    |                                                                     |                          |

IV. Well Completion Data

|                                      |                                        |                                           |                                             |                                                                                 |                                   |
|--------------------------------------|----------------------------------------|-------------------------------------------|---------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------|
| <sup>21</sup> Spud Date<br>4/26/2019 | <sup>22</sup> Ready Date<br>~8/20/2021 | <sup>23</sup> TD<br>18240' MD / 7008' TVD | <sup>24</sup> PBTD<br>18130' MD / 7007' TVD | <sup>25</sup> Perforations<br>~7300' MD / ~18088' MD<br>~6974' TVD / ~7005' TVD | <sup>26</sup> DHC, MC<br>R-13457A |
| <sup>27</sup> Hole Size              |                                        | <sup>28</sup> Casing & Tubing Size        |                                             | <sup>29</sup> Depth Set                                                         |                                   |
| 17-1/2"                              |                                        | 13-3/8", 54.5#, J-55                      |                                             | 331'                                                                            |                                   |
| 12-1/4"                              |                                        | 9-5/8", 43.5#, N-80                       |                                             | 6358'                                                                           |                                   |
| 8-3/4"                               |                                        | 5 1/2", 20#, P-110                        |                                             | 18,219'                                                                         |                                   |
|                                      |                                        | 2 7/8", 6.5#, J-55                        |                                             | pending                                                                         |                                   |
|                                      |                                        |                                           |                                             |                                                                                 |                                   |

V. Well Test Data

|                            |                                               |                         |                           |                             |                             |
|----------------------------|-----------------------------------------------|-------------------------|---------------------------|-----------------------------|-----------------------------|
| <sup>31</sup> Date New Oil | <sup>32</sup> Gas Delivery Date<br>~8/20/2021 | <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:<br><i>Etta Trujillo</i> |                        | OIL CONSERVATION DIVISION             |  |
| Printed name:<br>Etta Trujillo                                                                                                                                                                                                                 |                        | Approved by: <i>PATRICIA MARTINEZ</i> |  |
| Title:<br>Regulatory Specialist                                                                                                                                                                                                                |                        | Title: <i>PETROLEUM SPECIALIST</i>    |  |
| E-mail Address:<br>etrujillo@logosresourcesllc.com                                                                                                                                                                                             |                        | Approval Date: <i>8/23/2021</i>       |  |
| Date:<br>8/09/2021                                                                                                                                                                                                                             | Phone:<br>505-324-4154 | <i>RT EXPIRES 11/20/2021</i>          |  |

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

District II  
811 S. First Street, 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 Drive, Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised August 1, 2011

Submit one copy to  
Appropriate District Office

**OIL CONSERVATION DIVISION**  
**1220 South St. Francis Drive**  
**Santa Fe, NM 87505**

☒ AMENDED REPORT

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

*Etta Trujillo* **08/09/2021**  
Signature Date

**Etta Trujillo**  
Printed Name  
**etrujillo@logosresourcesllc.com**  
E-mail Address

WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                         |                                                    |                                        |
|-----------------------------------------|----------------------------------------------------|----------------------------------------|
| <sup>1</sup> API Number<br>30-039-31383 | <sup>2</sup> Pool Code<br>97232                    | <sup>3</sup> Pool Name<br>BASIN MANCOS |
| <sup>4</sup> Property Code<br>320608    | <sup>5</sup> Property Name<br>ROSA UNIT            | <sup>6</sup> Well Number<br>656H       |
| <sup>7</sup> GRID No.<br>289408         | <sup>8</sup> Operator Name<br>LOGOS OPERATING, LLC | <sup>9</sup> Elevation<br>6372'        |

<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     |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|------------|
| A             | 25      | 31N      | 6W    | 1       | 1068          | NORTH            | 289           | EAST           | RIO ARriba |

<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     |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|------------|
| E             | 28      | 31N      | 5W    |         | 1378          | NORTH            | 1215          | WEST           | RIO ARriba |

|                                          |                                                                    |                               |                                  |                                     |
|------------------------------------------|--------------------------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------|
| <sup>12</sup> Dedicated Acres<br>1144.85 | N/2 - Section 25, T31N, R6W<br>N/2 - Sections 30, 29, 28 T31N, R5W | <sup>13</sup> Joint or Infill | <sup>14</sup> Consolidation Code | <sup>15</sup> Order No.<br>R-13457A |
|------------------------------------------|--------------------------------------------------------------------|-------------------------------|----------------------------------|-------------------------------------|

**18 SURVEYOR CERTIFICATION**

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

Date Revised: AUGUST 5, 2021  
Date of Survey: MARCH 15, 2019

Signature and Seal of Professional Surveyor



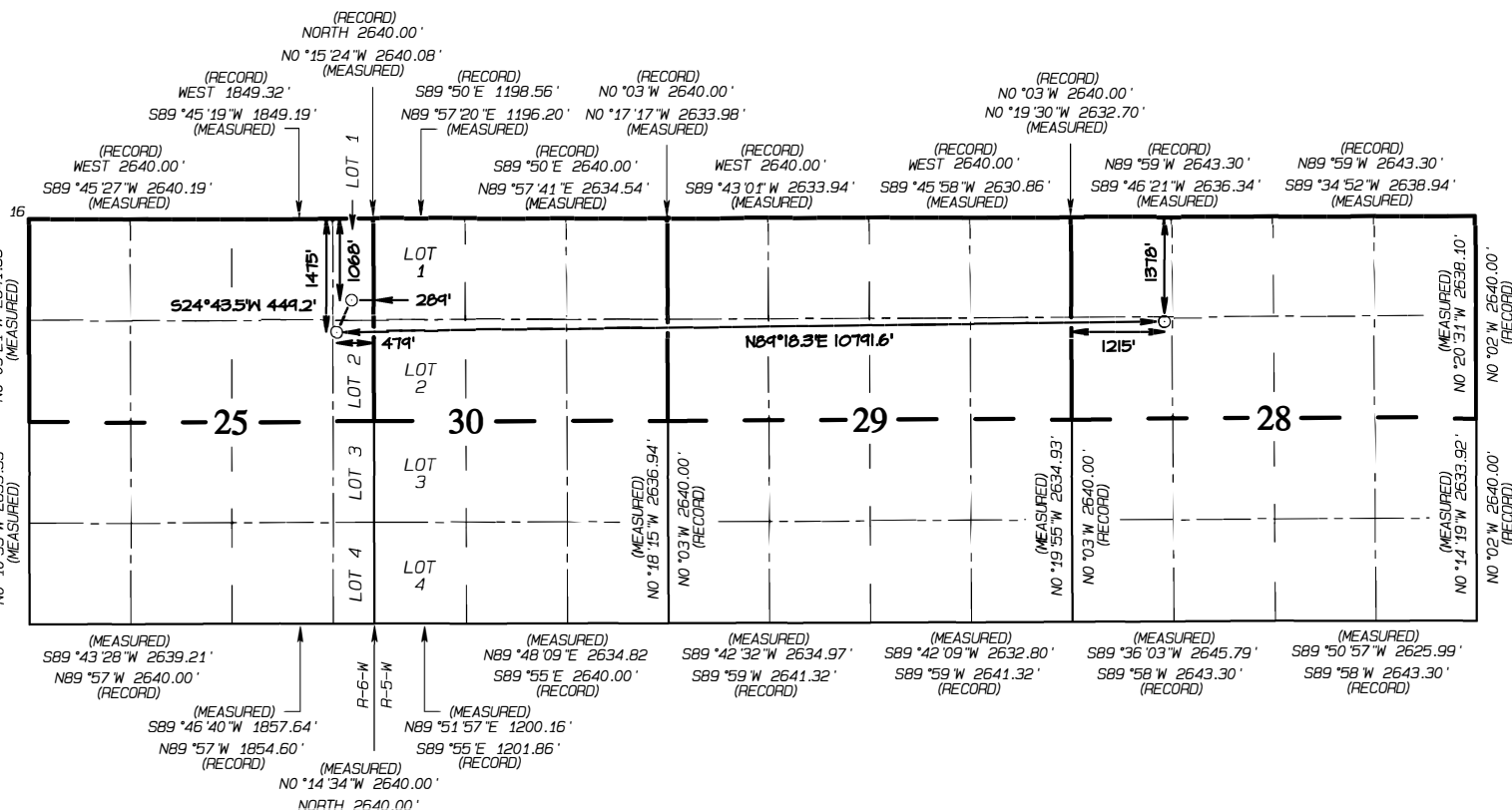
**JASON C. EDWARDS**  
Certificate Number 15269

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

POINT-OF-ENTRY  
1475' FNL 479' FEL  
SEC. 25, T31N, R6W  
LAT: 36.873802°N  
LONG: 107.408820°W  
DATUM: NAD1927  
  
LAT: 36.873808°N  
LONG: 107.409423°W  
DATUM: NAD1983

SURFACE LOCATION  
1068' FNL 289' FEL  
SEC. 25, T31N, R6W  
LAT: 36.874920°N  
LONG: 107.408172°W  
DATUM: NAD1927  
  
LAT: 36.874926°N  
LONG: 107.408775°W  
DATUM: NAD1983

END-OF-LATERAL  
1378' FNL 1215' FWL  
SEC. 28, T31N, R5W  
LAT: 36.874024°N  
LONG: 107.371927°W  
DATUM: NAD1927  
  
LAT: 36.874030°N  
LONG: 107.372529°W  
DATUM: NAD1983





## **Logos Opersting LLC**

**Rio Arriba, NM NAD83**

**Rosa Unit 29**

**Rosa Unit #656H - Slot B3 (656H)**

**OH**

**Design: OH**

## **Standard Survey Report**

**27 July, 2021**



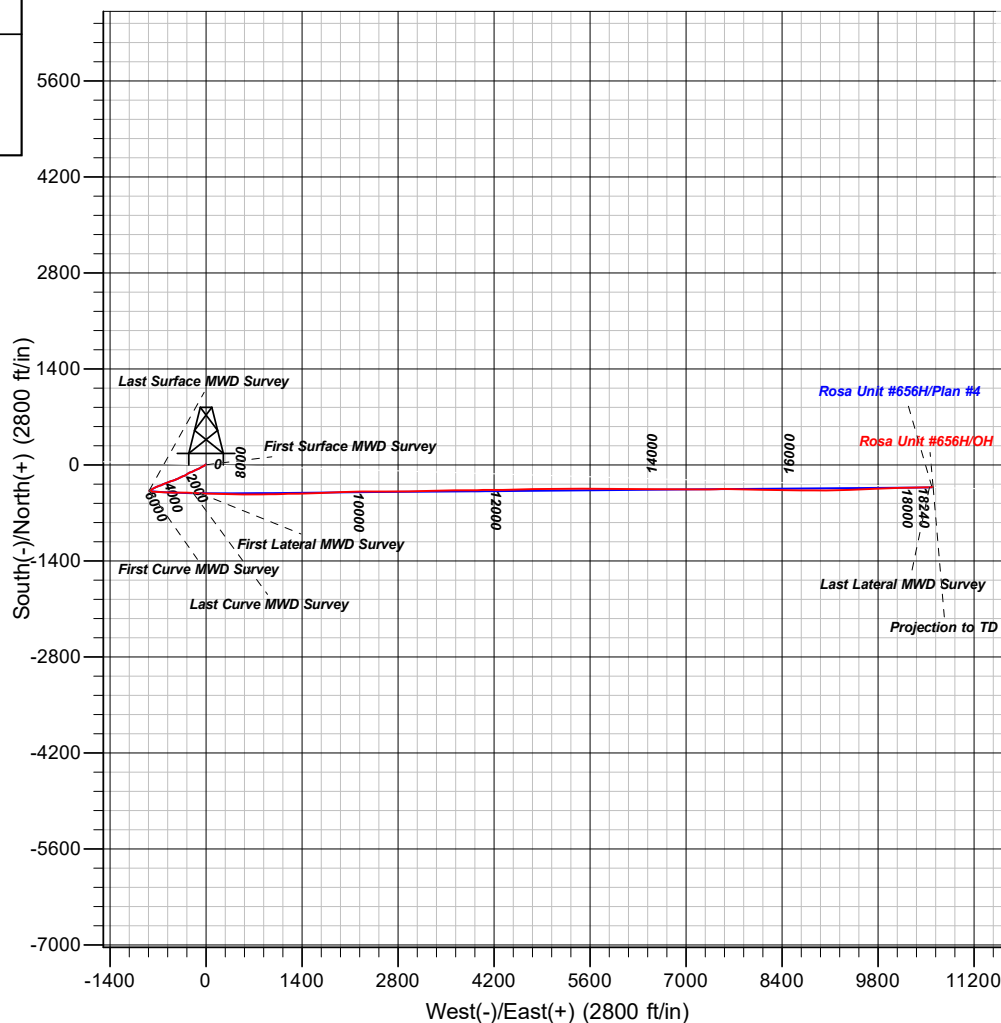
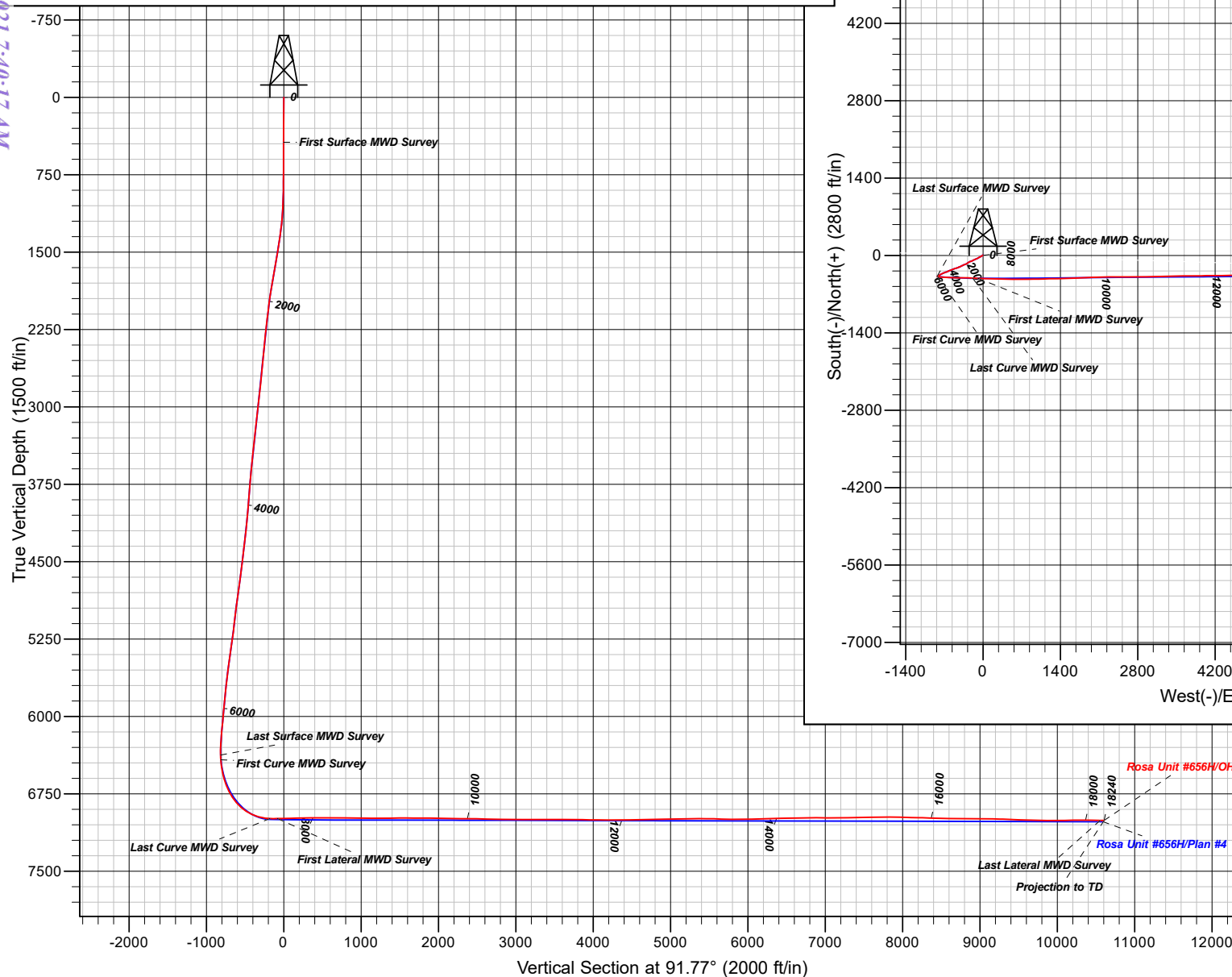


Company Name: Logos Operating LLC  
 Project: Rio Arriba, NM NAD83  
 Site: Rosa Unit 29  
 Well: Rosa Unit #656H  
 Wellbore: OH



## WELL DETAILS: Rosa Unit #656H

| +NESW    | North      | GL 6372' & RKB 25' @ 6397.00ft | 6372.00    | Longitude |              |
|----------|------------|--------------------------------|------------|-----------|--------------|
| 0.000.00 | 2138073.89 | Easting                        | 2847269.23 | Latitude  | 36.8749260   |
|          |            |                                |            |           | -107.4087750 |
|          |            |                                |            |           | B3 (656H)    |



Design: OH (Rosa Unit #656H/OH)

Created By: Janie Collins Date: 11:41, July 27 2021

PROJECT DETAILS: Rio Arriba, NM NAD83

Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: New Mexico Western Zone

System Datum: Mean Sea Level  
 Local North: True



|                  |                      |                                     |                                       |
|------------------|----------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | Logos Operating LLC  | <b>Local Co-ordinate Reference:</b> | Well Rosa Unit #656H - Slot B3 (656H) |
| <b>Project:</b>  | Rio Arriba, NM NAD83 | <b>TVD Reference:</b>               | GL 6372' & RKB 25' @ 6397.00ft        |
| <b>Site:</b>     | Rosa Unit 29         | <b>MD Reference:</b>                | GL 6372' & RKB 25' @ 6397.00ft        |
| <b>Well:</b>     | Rosa Unit #656H      | <b>North Reference:</b>             | True                                  |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | OH                   | <b>Database:</b>                    | EDM_16.0                              |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | Rio Arriba, NM NAD83      |                      |                |
| <b>Map System:</b> | US State Plane 1983       | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983 |                      |                |
| <b>Map Zone:</b>   | New Mexico Western Zone   |                      |                |

| Site                  |         | Rosa Unit 29 |                   |            |              |
|-----------------------|---------|--------------|-------------------|------------|--------------|
| Site Position:        |         | Northing:    | 2,138,126.53 usft | Latitude:  | 36.8750715   |
| From:                 | Map     | Easting:     | 2,847,195.58 usft | Longitude: | -107.4090261 |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 13.200 in         |            |              |

| Well                 | Rosa Unit #656H - Slot B3 (656H) |         |                     |                   |               |              |
|----------------------|----------------------------------|---------|---------------------|-------------------|---------------|--------------|
| Well Position        | +N/-S                            | 0.00 ft | Northing:           | 2,138,073.89 usft | Latitude:     | 36.8749260   |
|                      | +E/-W                            | 0.00 ft | Easting:            | 2,847,269.24 usft | Longitude:    | -107.4087750 |
| Position Uncertainty |                                  | 0.00 ft | Wellhead Elevation: | 0.00 ft           | Ground Level: | 6,372.00 ft  |
| Grid Convergence:    |                                  | 0.25 °  |                     |                   |               |              |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | OH                |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | HDGM              | 3/6/2019           | 8.88                   | 63.43                | 49,854.20000000            |

|                          |                              |                   |                   |                      |      |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|------|
| <b>Design</b>            | OH                           |                   |                   |                      |      |
| <b>Audit Notes:</b>      |                              |                   |                   |                      |      |
| <b>Version:</b>          | 1.0                          | <b>Phase:</b>     | ACTUAL            | <b>Tie On Depth:</b> | 0.00 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Direction (°)</b> |      |
|                          | 0.00                         | 0.00              | 0.00              | 91.77                |      |

|                       |                |                                          |                  |                    |  |
|-----------------------|----------------|------------------------------------------|------------------|--------------------|--|
| <b>Survey Program</b> | <b>Date</b>    | 7/27/2021                                |                  |                    |  |
| <b>From (ft)</b>      | <b>To (ft)</b> | <b>Survey (Wellbore)</b>                 | <b>Tool Name</b> | <b>Description</b> |  |
| 435.00                | 6,454.00       | Survey #1 - Surface MWD Survey (OH)      | MWD+HDGM         | OWSG MWD + HDGM    |  |
| 6,501.00              | 7,445.00       | Survey #2 - Intermediate MWD Survey (OH) | MWD+HDGM         | OWSG MWD + HDGM    |  |
| 7,540.00              | 18,240.00      | Survey #3 - Lateral MWD Survey (OH)      | MWD+HDGM         | OWSG MWD + HDGM    |  |

|                            |                        |                    |                            |                   |                   |                              |                              |                             |                            |  |
|----------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|------------------------------|-----------------------------|----------------------------|--|
| <b>Survey</b>              |                        |                    |                            |                   |                   |                              |                              |                             |                            |  |
| <b>Measured Depth (ft)</b> | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Vertical Section (ft)</b> | <b>Dogleg Rate (°/100ft)</b> | <b>Build Rate (°/100ft)</b> | <b>Turn Rate (°/100ft)</b> |  |
| 0.00                       | 0.00                   | 0.00               | 0.00                       | 0.00              | 0.00              | 0.00                         | 0.00                         | 0.00                        | 0.00                       |  |
| 435.00                     | 0.79                   | 338.12             | 434.99                     | 2.78              | -1.12             | -1.20                        | 0.18                         | 0.18                        | 0.00                       |  |
| 530.00                     | 0.62                   | 339.08             | 529.98                     | 3.87              | -1.55             | -1.66                        | 0.18                         | -0.18                       | 1.01                       |  |
| 626.00                     | 0.70                   | 358.86             | 625.97                     | 4.94              | -1.74             | -1.89                        | 0.25                         | 0.08                        | 20.60                      |  |
| 721.00                     | 1.14                   | 347.79             | 720.96                     | 6.45              | -1.95             | -2.15                        | 0.50                         | 0.46                        | -11.65                     |  |
| 817.00                     | 0.44                   | 330.65             | 816.95                     | 7.70              | -2.34             | -2.57                        | 0.76                         | -0.73                       | -17.85                     |  |
| 912.00                     | 2.07                   | 234.76             | 911.93                     | 7.03              | -3.92             | -4.13                        | 2.27                         | 1.72                        | -100.94                    |  |
| 1,007.00                   | 4.22                   | 223.33             | 1,006.78                   | 3.50              | -7.72             | -7.82                        | 2.35                         | 2.26                        | -12.03                     |  |



## Lonestar Consulting

## Survey Report



|                  |                      |                                     |                                       |
|------------------|----------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | Logos Operating LLC  | <b>Local Co-ordinate Reference:</b> | Well Rosa Unit #656H - Slot B3 (656H) |
| <b>Project:</b>  | Rio Arriba, NM NAD83 | <b>TVD Reference:</b>               | GL 6372' & RKB 25' @ 6397.00ft        |
| <b>Site:</b>     | Rosa Unit 29         | <b>MD Reference:</b>                | GL 6372' & RKB 25' @ 6397.00ft        |
| <b>Well:</b>     | Rosa Unit #656H      | <b>North Reference:</b>             | True                                  |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | OH                   | <b>Database:</b>                    | EDM_16.0                              |

| Survey              |                 |             |                     |            |            |                       |                       |                      |                     |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 1,102.00            | 6.02            | 231.51      | 1,101.40            | -2.15      | -14.02     | -13.94                | 2.04                  | 1.89                 | 8.61                |
| 1,198.00            | 8.88            | 237.92      | 1,196.58            | -9.22      | -24.24     | -23.94                | 3.10                  | 2.98                 | 6.68                |
| 1,293.00            | 11.07           | 243.20      | 1,290.14            | -17.23     | -38.59     | -38.04                | 2.50                  | 2.31                 | 5.56                |
| 1,388.00            | 12.44           | 243.46      | 1,383.15            | -25.91     | -55.89     | -55.06                | 1.44                  | 1.44                 | 0.27                |
| 1,483.00            | 14.37           | 238.98      | 1,475.56            | -36.56     | -75.15     | -73.98                | 2.31                  | 2.03                 | -4.72               |
| 1,578.00            | 14.94           | 241.35      | 1,567.47            | -48.51     | -96.00     | -94.45                | 0.87                  | 0.60                 | 2.49                |
| 1,673.00            | 14.99           | 246.98      | 1,659.25            | -59.18     | -118.05    | -116.17               | 1.53                  | 0.05                 | 5.93                |
| 1,769.00            | 14.72           | 244.78      | 1,752.04            | -69.23     | -140.51    | -138.31               | 0.65                  | -0.28                | -2.29               |
| 1,864.00            | 14.02           | 244.95      | 1,844.07            | -79.25     | -161.86    | -159.33               | 0.74                  | -0.74                | 0.18                |
| 1,959.00            | 12.35           | 241.88      | 1,936.56            | -88.91     | -181.24    | -178.41               | 1.91                  | -1.76                | -3.23               |
| 2,054.00            | 10.55           | 243.11      | 2,029.67            | -97.63     | -197.96    | -194.85               | 1.91                  | -1.89                | 1.29                |
| 2,150.00            | 8.88            | 252.07      | 2,124.29            | -103.89    | -212.85    | -209.54               | 2.34                  | -1.74                | 9.33                |
| 2,244.00            | 9.84            | 253.92      | 2,217.04            | -108.35    | -227.47    | -224.02               | 1.07                  | 1.02                 | 1.97                |
| 2,339.00            | 9.98            | 245.66      | 2,310.63            | -113.99    | -242.77    | -239.14               | 1.50                  | 0.15                 | -8.69               |
| 2,435.00            | 7.95            | 236.78      | 2,405.46            | -121.06    | -255.91    | -252.05               | 2.55                  | -2.11                | -9.25               |
| 2,531.00            | 7.73            | 233.79      | 2,500.56            | -128.51    | -266.67    | -262.58               | 0.48                  | -0.23                | -3.11               |
| 2,626.00            | 9.27            | 233.79      | 2,594.51            | -136.80    | -278.00    | -273.64               | 1.62                  | 1.62                 | 0.00                |
| 2,721.00            | 9.71            | 240.38      | 2,688.21            | -145.28    | -291.14    | -286.51               | 1.23                  | 0.46                 | 6.94                |
| 2,812.00            | 8.79            | 247.77      | 2,778.03            | -151.71    | -304.25    | -299.42               | 1.65                  | -1.01                | 8.12                |
| 2,911.00            | 8.61            | 249.79      | 2,875.89            | -157.13    | -318.20    | -313.20               | 0.36                  | -0.18                | 2.04                |
| 3,007.00            | 10.20           | 245.92      | 2,970.60            | -163.08    | -332.71    | -327.51               | 1.78                  | 1.66                 | -4.03               |
| 3,102.00            | 10.02           | 244.25      | 3,064.13            | -170.10    | -347.83    | -342.41               | 0.36                  | -0.19                | -1.76               |
| 3,197.00            | 9.05            | 245.48      | 3,157.81            | -176.79    | -362.07    | -356.44               | 1.04                  | -1.02                | 1.29                |
| 3,293.00            | 8.88            | 244.60      | 3,252.64            | -183.10    | -375.64    | -369.80               | 0.23                  | -0.18                | -0.92               |
| 3,387.00            | 9.45            | 244.87      | 3,345.44            | -189.49    | -389.18    | -383.14               | 0.61                  | 0.61                 | 0.29                |
| 3,483.00            | 8.79            | 246.71      | 3,440.23            | -195.74    | -403.05    | -396.81               | 0.75                  | -0.69                | 1.92                |
| 3,578.00            | 8.79            | 246.36      | 3,534.11            | -201.52    | -416.37    | -409.94               | 0.06                  | 0.00                 | -0.37               |
| 3,674.00            | 7.87            | 245.13      | 3,629.10            | -207.23    | -429.05    | -422.44               | 0.98                  | -0.96                | -1.28               |
| 3,769.00            | 6.42            | 243.20      | 3,723.36            | -212.36    | -439.69    | -432.92               | 1.55                  | -1.53                | -2.03               |
| 3,865.00            | 6.46            | 246.62      | 3,818.75            | -216.92    | -449.44    | -442.53               | 0.40                  | 0.04                 | 3.56                |
| 3,960.00            | 6.90            | 249.70      | 3,913.11            | -221.02    | -459.70    | -452.65               | 0.60                  | 0.46                 | 3.24                |
| 4,054.00            | 7.21            | 253.83      | 4,006.40            | -224.62    | -470.66    | -463.50               | 0.63                  | 0.33                 | 4.39                |
| 4,149.00            | 7.82            | 254.53      | 4,100.58            | -228.01    | -482.61    | -475.34               | 0.65                  | 0.64                 | 0.74                |
| 4,244.00            | 8.79            | 252.51      | 4,194.58            | -231.91    | -495.77    | -488.37               | 1.07                  | 1.02                 | -2.13               |
| 4,338.00            | 9.27            | 250.93      | 4,287.42            | -236.54    | -509.77    | -502.22               | 0.57                  | 0.51                 | -1.68               |
| 4,432.00            | 9.93            | 251.63      | 4,380.10            | -241.57    | -524.62    | -516.91               | 0.71                  | 0.70                 | 0.74                |
| 4,526.00            | 10.15           | 248.56      | 4,472.66            | -247.15    | -540.02    | -532.13               | 0.62                  | 0.23                 | -3.27               |
| 4,620.00            | 9.40            | 247.33      | 4,565.30            | -253.14    | -554.81    | -546.73               | 0.83                  | -0.80                | -1.31               |
| 4,715.00            | 10.59           | 247.15      | 4,658.85            | -259.52    | -570.02    | -561.73               | 1.25                  | 1.25                 | -0.19               |
| 4,809.00            | 11.29           | 248.73      | 4,751.14            | -266.21    | -586.55    | -578.05               | 0.81                  | 0.74                 | 1.68                |
| 4,903.00            | 11.73           | 248.73      | 4,843.25            | -273.02    | -604.03    | -595.31               | 0.47                  | 0.47                 | 0.00                |
| 4,997.00            | 11.78           | 247.33      | 4,935.28            | -280.18    | -621.79    | -612.84               | 0.31                  | 0.05                 | -1.49               |
| 5,091.00            | 9.67            | 243.90      | 5,027.64            | -287.35    | -637.73    | -628.55               | 2.34                  | -2.24                | -3.65               |



## Lonestar Consulting

## Survey Report



|                  |                      |                                     |                                       |
|------------------|----------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | Logos Operating LLC  | <b>Local Co-ordinate Reference:</b> | Well Rosa Unit #656H - Slot B3 (656H) |
| <b>Project:</b>  | Rio Arriba, NM NAD83 | <b>TVD Reference:</b>               | GL 6372' & RKB 25' @ 6397.00ft        |
| <b>Site:</b>     | Rosa Unit 29         | <b>MD Reference:</b>                | GL 6372' & RKB 25' @ 6397.00ft        |
| <b>Well:</b>     | Rosa Unit #656H      | <b>North Reference:</b>             | True                                  |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | OH                   | <b>Database:</b>                    | EDM_16.0                              |

| Survey              |                 |             |                     |            |            |                       |                       |                      |                     |  |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |  |
| 5,186.00            | 9.14            | 246.98      | 5,121.36            | -293.81    | -651.84    | -642.46               | 0.77                  | -0.56                | 3.24                |  |
| 5,280.00            | 10.55           | 253.66      | 5,213.98            | -299.16    | -666.97    | -657.42               | 1.93                  | 1.50                 | 7.11                |  |
| 5,375.00            | 12.13           | 250.23      | 5,307.12            | -304.98    | -684.71    | -674.97               | 1.81                  | 1.66                 | -3.61               |  |
| 5,469.00            | 11.73           | 248.56      | 5,399.09            | -311.81    | -702.90    | -692.94               | 0.56                  | -0.43                | -1.78               |  |
| 5,564.00            | 11.51           | 245.83      | 5,492.14            | -319.22    | -720.54    | -710.33               | 0.62                  | -0.23                | -2.87               |  |
| 5,659.00            | 10.68           | 242.84      | 5,585.37            | -327.12    | -737.02    | -726.56               | 1.06                  | -0.87                | -3.15               |  |
| 5,753.00            | 9.27            | 240.38      | 5,677.94            | -334.84    | -751.35    | -740.65               | 1.57                  | -1.50                | -2.62               |  |
| 5,848.00            | 8.96            | 244.25      | 5,771.74            | -341.84    | -764.67    | -753.74               | 0.72                  | -0.33                | 4.07                |  |
| 5,942.00            | 8.70            | 241.09      | 5,864.63            | -348.45    | -777.48    | -766.35               | 0.59                  | -0.28                | -3.36               |  |
| 6,036.00            | 8.35            | 243.11      | 5,957.59            | -354.98    | -789.79    | -778.45               | 0.49                  | -0.37                | 2.15                |  |
| 6,130.00            | 7.73            | 240.91      | 6,050.67            | -361.14    | -801.40    | -789.87               | 0.74                  | -0.66                | -2.34               |  |
| 6,225.00            | 7.21            | 243.72      | 6,144.86            | -366.88    | -812.33    | -800.61               | 0.67                  | -0.55                | 2.96                |  |
| 6,305.00            | 5.89            | 241.35      | 6,224.34            | -371.07    | -820.44    | -808.58               | 1.68                  | -1.65                | -2.96               |  |
| 6,378.00            | 4.70            | 241.35      | 6,297.03            | -374.30    | -826.35    | -814.39               | 1.63                  | -1.63                | 0.00                |  |
| 6,407.00            | 4.68            | 237.56      | 6,325.93            | -375.51    | -828.39    | -816.40               | 1.07                  | -0.07                | -13.07              |  |
| 6,454.00            | 2.86            | 153.29      | 6,372.85            | -377.59    | -829.48    | -817.42               | 11.14                 | -3.87                | -179.30             |  |
| 6,501.00            | 7.08            | 115.81      | 6,419.68            | -379.90    | -826.35    | -814.22               | 10.88                 | 8.98                 | -79.74              |  |
| 6,548.00            | 9.94            | 110.54      | 6,466.15            | -382.58    | -819.94    | -807.73               | 6.30                  | 6.09                 | -11.21              |  |
| 6,596.00            | 12.08           | 110.18      | 6,513.27            | -385.77    | -811.34    | -799.04               | 4.46                  | 4.46                 | -0.75               |  |
| 6,643.00            | 16.97           | 102.27      | 6,558.76            | -388.92    | -800.02    | -787.62               | 11.20                 | 10.40                | -16.83              |  |
| 6,690.00            | 20.82           | 94.17       | 6,603.22            | -390.99    | -784.98    | -772.52               | 9.89                  | 8.19                 | -17.23              |  |
| 6,737.00            | 25.85           | 93.13       | 6,646.37            | -392.16    | -766.40    | -753.92               | 10.74                 | 10.70                | -2.21               |  |
| 6,783.00            | 31.25           | 91.31       | 6,686.76            | -392.98    | -744.44    | -731.95               | 11.89                 | 11.74                | -3.96               |  |
| 6,832.00            | 35.35           | 90.14       | 6,727.70            | -393.30    | -717.55    | -705.06               | 8.47                  | 8.37                 | -2.39               |  |
| 6,877.00            | 38.42           | 93.11       | 6,763.70            | -394.10    | -690.56    | -678.06               | 7.89                  | 6.82                 | 6.60                |  |
| 6,925.00            | 43.26           | 93.66       | 6,800.00            | -395.96    | -659.24    | -646.69               | 10.11                 | 10.08                | 1.15                |  |
| 6,971.00            | 48.36           | 93.57       | 6,832.05            | -398.03    | -626.33    | -613.74               | 11.09                 | 11.09                | -0.20               |  |
| 7,018.00            | 53.38           | 93.13       | 6,861.70            | -400.16    | -589.95    | -577.30               | 10.71                 | 10.68                | -0.94               |  |
| 7,067.00            | 58.21           | 92.17       | 6,889.24            | -402.02    | -549.48    | -536.80               | 9.99                  | 9.86                 | -1.96               |  |
| 7,114.00            | 62.85           | 91.86       | 6,912.36            | -403.46    | -508.59    | -495.89               | 9.89                  | 9.87                 | -0.66               |  |
| 7,163.00            | 66.74           | 91.02       | 6,933.22            | -404.57    | -464.28    | -451.56               | 8.09                  | 7.94                 | -1.71               |  |
| 7,209.00            | 70.31           | 90.66       | 6,950.06            | -405.19    | -421.49    | -408.77               | 7.79                  | 7.76                 | -0.78               |  |
| 7,257.00            | 75.27           | 90.14       | 6,964.26            | -405.51    | -375.65    | -362.95               | 10.38                 | 10.33                | -1.08               |  |
| 7,304.00            | 80.11           | 89.87       | 6,974.27            | -405.51    | -329.75    | -317.06               | 10.31                 | 10.30                | -0.57               |  |
| 7,351.00            | 82.86           | 90.21       | 6,981.23            | -405.54    | -283.27    | -270.61               | 5.89                  | 5.85                 | 0.72                |  |
| 7,445.00            | 88.11           | 91.73       | 6,988.63            | -407.14    | -189.61    | -176.94               | 5.81                  | 5.59                 | 1.62                |  |
| 7,540.00            | 91.21           | 92.63       | 6,989.19            | -410.75    | -94.69     | -81.96                | 3.40                  | 3.26                 | 0.95                |  |
| 7,606.00            | 90.77           | 93.42       | 6,988.05            | -414.23    | -28.79     | -15.99                | 1.37                  | -0.67                | 1.20                |  |
| 7,699.00            | 90.70           | 93.35       | 6,986.86            | -419.72    | 64.04      | 76.97                 | 0.11                  | -0.08                | -0.08               |  |
| 7,794.00            | 90.74           | 90.97       | 6,985.67            | -423.30    | 158.95     | 171.95                | 2.51                  | 0.04                 | -2.51               |  |
| 7,888.00            | 90.81           | 90.95       | 6,984.39            | -424.88    | 252.93     | 265.93                | 0.08                  | 0.07                 | -0.02               |  |
| 7,982.00            | 91.11           | 90.79       | 6,982.82            | -426.30    | 346.91     | 359.91                | 0.36                  | 0.32                 | -0.17               |  |
| 8,076.00            | 89.66           | 90.78       | 6,982.19            | -427.59    | 440.89     | 453.89                | 1.54                  | -1.54                | -0.01               |  |
| 8,170.00            | 90.10           | 90.75       | 6,982.38            | -428.85    | 534.89     | 547.88                | 0.47                  | 0.47                 | -0.03               |  |



# Lonestar Consulting

## Survey Report



|                  |                      |                                     |                                       |
|------------------|----------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | Logos Operating LLC  | <b>Local Co-ordinate Reference:</b> | Well Rosa Unit #656H - Slot B3 (656H) |
| <b>Project:</b>  | Rio Arriba, NM NAD83 | <b>TVD Reference:</b>               | GL 6372' & RKB 25' @ 6397.00ft        |
| <b>Site:</b>     | Rosa Unit 29         | <b>MD Reference:</b>                | GL 6372' & RKB 25' @ 6397.00ft        |
| <b>Well:</b>     | Rosa Unit #656H      | <b>North Reference:</b>             | True                                  |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | OH                   | <b>Database:</b>                    | EDM_16.0                              |

| Survey              |                 |             |                     |            |            |                       |                       |                      |                     |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 8,265.00            | 90.44           | 90.60       | 6,981.94            | -429.97    | 629.88     | 642.86                | 0.39                  | 0.36                 | -0.16               |
| 8,369.00            | 88.89           | 89.40       | 6,982.55            | -429.97    | 733.87     | 746.80                | 1.88                  | -1.49                | -1.15               |
| 8,454.00            | 89.26           | 89.24       | 6,983.92            | -428.96    | 818.85     | 831.71                | 0.47                  | 0.44                 | -0.19               |
| 8,548.00            | 89.36           | 89.28       | 6,985.05            | -427.74    | 912.84     | 925.61                | 0.11                  | 0.11                 | 0.04                |
| 8,643.00            | 89.34           | 88.74       | 6,986.13            | -426.10    | 1,007.82   | 1,020.50              | 0.57                  | -0.02                | -0.57               |
| 8,737.00            | 89.87           | 88.83       | 6,986.78            | -424.11    | 1,101.79   | 1,114.37              | 0.57                  | 0.56                 | 0.10                |
| 8,831.00            | 90.66           | 88.65       | 6,986.34            | -422.04    | 1,195.77   | 1,208.23              | 0.86                  | 0.84                 | -0.19               |
| 8,926.00            | 90.03           | 89.21       | 6,985.77            | -420.27    | 1,290.75   | 1,303.12              | 0.89                  | -0.66                | 0.59                |
| 9,020.00            | 90.34           | 88.93       | 6,985.47            | -418.74    | 1,384.74   | 1,397.01              | 0.44                  | 0.33                 | -0.30               |
| 9,115.00            | 90.77           | 88.65       | 6,984.54            | -416.74    | 1,479.71   | 1,491.88              | 0.54                  | 0.45                 | -0.29               |
| 9,209.00            | 89.25           | 87.77       | 6,984.53            | -413.80    | 1,573.66   | 1,585.69              | 1.87                  | -1.62                | -0.94               |
| 9,303.00            | 89.83           | 87.36       | 6,985.28            | -409.81    | 1,667.57   | 1,679.44              | 0.76                  | 0.62                 | -0.44               |
| 9,397.00            | 90.64           | 87.07       | 6,984.90            | -405.24    | 1,761.46   | 1,773.14              | 0.92                  | 0.86                 | -0.31               |
| 9,492.00            | 89.00           | 87.66       | 6,985.20            | -400.87    | 1,856.36   | 1,867.85              | 1.83                  | -1.73                | 0.62                |
| 9,587.00            | 89.43           | 87.83       | 6,986.50            | -397.13    | 1,951.27   | 1,962.61              | 0.49                  | 0.45                 | 0.18                |
| 9,684.00            | 90.00           | 88.08       | 6,986.98            | -393.67    | 2,048.21   | 2,059.39              | 0.64                  | 0.59                 | 0.26                |
| 9,780.00            | 88.56           | 89.04       | 6,988.19            | -391.26    | 2,144.17   | 2,155.23              | 1.80                  | -1.50                | 1.00                |
| 9,876.00            | 89.06           | 89.24       | 6,990.18            | -389.82    | 2,240.14   | 2,251.11              | 0.56                  | 0.52                 | 0.21                |
| 9,972.00            | 89.53           | 89.41       | 6,991.36            | -388.69    | 2,336.12   | 2,347.01              | 0.52                  | 0.49                 | 0.18                |
| 10,068.00           | 90.00           | 89.64       | 6,991.75            | -387.89    | 2,432.12   | 2,442.94              | 0.55                  | 0.49                 | 0.24                |
| 10,164.00           | 88.96           | 90.07       | 6,992.63            | -387.65    | 2,528.11   | 2,538.88              | 1.17                  | -1.08                | 0.45                |
| 10,260.00           | 88.73           | 89.83       | 6,994.56            | -387.57    | 2,624.09   | 2,634.81              | 0.35                  | -0.24                | -0.25               |
| 10,356.00           | 88.96           | 89.81       | 6,996.50            | -387.26    | 2,720.07   | 2,730.74              | 0.24                  | 0.24                 | -0.02               |
| 10,451.00           | 89.53           | 89.59       | 6,997.75            | -386.77    | 2,815.06   | 2,825.67              | 0.64                  | 0.60                 | -0.23               |
| 10,546.00           | 89.66           | 89.17       | 6,998.42            | -385.74    | 2,910.05   | 2,920.58              | 0.46                  | 0.14                 | -0.44               |
| 10,640.00           | 89.70           | 89.05       | 6,998.94            | -384.28    | 3,004.04   | 3,014.48              | 0.13                  | 0.04                 | -0.13               |
| 10,735.00           | 89.90           | 88.92       | 6,999.28            | -382.60    | 3,099.03   | 3,109.36              | 0.25                  | 0.21                 | -0.14               |
| 10,829.00           | 90.07           | 88.47       | 6,999.30            | -380.46    | 3,193.00   | 3,203.23              | 0.51                  | 0.18                 | -0.48               |
| 10,924.00           | 90.33           | 87.99       | 6,998.97            | -377.52    | 3,287.95   | 3,298.05              | 0.57                  | 0.27                 | -0.51               |
| 11,018.00           | 89.90           | 89.44       | 6,998.78            | -375.41    | 3,381.93   | 3,391.91              | 1.61                  | -0.46                | 1.54                |
| 11,112.00           | 89.83           | 88.93       | 6,999.00            | -374.08    | 3,475.92   | 3,485.81              | 0.55                  | -0.07                | -0.54               |
| 11,207.00           | 90.10           | 88.25       | 6,999.06            | -371.74    | 3,570.89   | 3,580.67              | 0.77                  | 0.28                 | -0.72               |
| 11,302.00           | 89.43           | 89.53       | 6,999.45            | -369.90    | 3,665.87   | 3,675.54              | 1.52                  | -0.71                | 1.35                |
| 11,396.00           | 89.43           | 89.59       | 7,000.38            | -369.18    | 3,759.86   | 3,769.47              | 0.06                  | 0.00                 | 0.06                |
| 11,490.00           | 89.73           | 89.19       | 7,001.07            | -368.18    | 3,853.85   | 3,863.39              | 0.53                  | 0.32                 | -0.43               |
| 11,584.00           | 89.97           | 89.12       | 7,001.32            | -366.79    | 3,947.84   | 3,957.29              | 0.27                  | 0.26                 | -0.07               |
| 11,679.00           | 89.87           | 88.91       | 7,001.45            | -365.16    | 4,042.83   | 4,052.18              | 0.24                  | -0.11                | -0.22               |
| 11,773.00           | 89.60           | 90.15       | 7,001.89            | -364.39    | 4,136.82   | 4,146.10              | 1.35                  | -0.29                | 1.32                |
| 11,867.00           | 89.26           | 89.83       | 7,002.82            | -364.37    | 4,230.82   | 4,240.05              | 0.50                  | -0.36                | -0.34               |
| 11,962.00           | 89.87           | 89.97       | 7,003.54            | -364.20    | 4,325.81   | 4,335.00              | 0.66                  | 0.64                 | 0.15                |
| 12,057.00           | 90.90           | 89.14       | 7,002.91            | -363.47    | 4,420.81   | 4,429.92              | 1.39                  | 1.08                 | -0.87               |
| 12,151.00           | 90.94           | 88.65       | 7,001.40            | -361.65    | 4,514.78   | 4,523.79              | 0.52                  | 0.04                 | -0.52               |
| 12,245.00           | 91.04           | 88.04       | 6,999.77            | -358.94    | 4,608.72   | 4,617.61              | 0.66                  | 0.11                 | -0.65               |



# Lonestar Consulting

## Survey Report



|                  |                      |                                     |                                       |
|------------------|----------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | Logos Operating LLC  | <b>Local Co-ordinate Reference:</b> | Well Rosa Unit #656H - Slot B3 (656H) |
| <b>Project:</b>  | Rio Arriba, NM NAD83 | <b>TVD Reference:</b>               | GL 6372' & RKB 25' @ 6397.00ft        |
| <b>Site:</b>     | Rosa Unit 29         | <b>MD Reference:</b>                | GL 6372' & RKB 25' @ 6397.00ft        |
| <b>Well:</b>     | Rosa Unit #656H      | <b>North Reference:</b>             | True                                  |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | OH                   | <b>Database:</b>                    | EDM_16.0                              |

| Survey              |                 |             |                     |            |            |                       |                       |                      |                     |  |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |  |
| 12,340.00           | 91.24           | 87.81       | 6,997.88            | -355.50    | 4,703.64   | 4,712.38              | 0.32                  | 0.21                 | -0.24               |  |
| 12,434.00           | 90.31           | 89.27       | 6,996.61            | -353.11    | 4,797.60   | 4,806.22              | 1.84                  | -0.99                | 1.55                |  |
| 12,528.00           | 90.17           | 88.98       | 6,996.22            | -351.67    | 4,891.59   | 4,900.11              | 0.34                  | -0.15                | -0.31               |  |
| 12,622.00           | 90.60           | 90.07       | 6,995.59            | -350.89    | 4,985.58   | 4,994.04              | 1.25                  | 0.46                 | 1.16                |  |
| 12,716.00           | 90.81           | 89.72       | 6,994.43            | -350.72    | 5,079.57   | 5,087.98              | 0.43                  | 0.22                 | -0.37               |  |
| 12,811.00           | 91.01           | 89.27       | 6,992.92            | -349.88    | 5,174.56   | 5,182.89              | 0.52                  | 0.21                 | -0.47               |  |
| 12,905.00           | 91.14           | 89.14       | 6,991.16            | -348.58    | 5,268.53   | 5,276.78              | 0.20                  | 0.14                 | -0.14               |  |
| 12,999.00           | 89.66           | 89.12       | 6,990.50            | -347.15    | 5,362.51   | 5,370.68              | 1.57                  | -1.57                | -0.02               |  |
| 13,094.00           | 89.90           | 88.91       | 6,990.86            | -345.52    | 5,457.50   | 5,465.57              | 0.34                  | 0.25                 | -0.22               |  |
| 13,189.00           | 88.79           | 90.05       | 6,991.95            | -344.65    | 5,552.49   | 5,560.48              | 1.67                  | -1.17                | 1.20                |  |
| 13,285.00           | 89.00           | 89.99       | 6,993.80            | -344.69    | 5,648.47   | 5,656.42              | 0.23                  | 0.22                 | -0.06               |  |
| 13,380.00           | 89.30           | 89.85       | 6,995.21            | -344.56    | 5,743.46   | 5,751.36              | 0.35                  | 0.32                 | -0.15               |  |
| 13,475.00           | 89.83           | 89.76       | 6,995.93            | -344.23    | 5,838.45   | 5,846.30              | 0.57                  | 0.56                 | -0.09               |  |
| 13,570.00           | 89.73           | 91.32       | 6,996.30            | -345.13    | 5,933.45   | 5,941.28              | 1.65                  | -0.11                | 1.64                |  |
| 13,665.00           | 90.70           | 91.21       | 6,995.94            | -347.22    | 6,028.42   | 6,036.27              | 1.03                  | 1.02                 | -0.12               |  |
| 13,759.00           | 91.45           | 91.20       | 6,994.18            | -349.20    | 6,122.38   | 6,130.25              | 0.80                  | 0.80                 | -0.01               |  |
| 13,853.00           | 91.24           | 91.11       | 6,991.97            | -351.10    | 6,216.34   | 6,224.22              | 0.24                  | -0.22                | -0.10               |  |
| 13,948.00           | 91.67           | 90.93       | 6,989.56            | -352.79    | 6,311.29   | 6,319.18              | 0.49                  | 0.45                 | -0.19               |  |
| 14,043.00           | 90.97           | 90.32       | 6,987.37            | -353.82    | 6,406.26   | 6,414.13              | 0.98                  | -0.74                | -0.64               |  |
| 14,138.00           | 91.24           | 90.17       | 6,985.54            | -354.23    | 6,501.24   | 6,509.08              | 0.33                  | 0.28                 | -0.16               |  |
| 14,232.00           | 90.17           | 90.64       | 6,984.38            | -354.89    | 6,595.23   | 6,603.05              | 1.24                  | -1.14                | 0.50                |  |
| 14,326.00           | 90.40           | 90.41       | 6,983.91            | -355.75    | 6,689.23   | 6,697.02              | 0.35                  | 0.24                 | -0.24               |  |
| 14,421.00           | 90.70           | 90.07       | 6,983.00            | -356.15    | 6,784.22   | 6,791.98              | 0.48                  | 0.32                 | -0.36               |  |
| 14,515.00           | 91.11           | 89.92       | 6,981.52            | -356.14    | 6,878.21   | 6,885.93              | 0.46                  | 0.44                 | -0.16               |  |
| 14,610.00           | 89.43           | 90.65       | 6,981.07            | -356.62    | 6,973.20   | 6,980.89              | 1.93                  | -1.77                | 0.77                |  |
| 14,705.00           | 89.70           | 90.32       | 6,981.79            | -357.42    | 7,068.20   | 7,075.86              | 0.45                  | 0.28                 | -0.35               |  |
| 14,799.00           | 89.93           | 90.10       | 6,982.09            | -357.76    | 7,162.19   | 7,169.83              | 0.34                  | 0.24                 | -0.23               |  |
| 14,893.00           | 90.13           | 89.65       | 6,982.05            | -357.56    | 7,256.19   | 7,263.78              | 0.52                  | 0.21                 | -0.48               |  |
| 14,988.00           | 90.77           | 88.52       | 6,981.30            | -356.04    | 7,351.18   | 7,358.67              | 1.37                  | 0.67                 | -1.19               |  |
| 15,082.00           | 91.47           | 88.41       | 6,979.46            | -353.53    | 7,445.12   | 7,452.49              | 0.75                  | 0.74                 | -0.12               |  |
| 15,176.00           | 91.28           | 89.59       | 6,977.21            | -351.89    | 7,539.08   | 7,546.35              | 1.27                  | -0.20                | 1.26                |  |
| 15,271.00           | 90.34           | 90.67       | 6,975.86            | -352.10    | 7,634.07   | 7,641.30              | 1.51                  | -0.99                | 1.14                |  |
| 15,365.00           | 90.30           | 91.44       | 6,975.34            | -353.83    | 7,728.05   | 7,735.29              | 0.82                  | -0.04                | 0.82                |  |
| 15,459.00           | 89.40           | 91.38       | 6,975.58            | -356.14    | 7,822.02   | 7,829.29              | 0.96                  | -0.96                | -0.06               |  |
| 15,554.00           | 89.87           | 91.08       | 6,976.19            | -358.18    | 7,917.00   | 7,924.28              | 0.59                  | 0.49                 | -0.32               |  |
| 15,648.00           | 88.59           | 91.37       | 6,977.45            | -360.19    | 8,010.97   | 8,018.27              | 1.40                  | -1.36                | 0.31                |  |
| 15,743.00           | 88.86           | 91.19       | 6,979.57            | -362.31    | 8,105.92   | 8,113.24              | 0.34                  | 0.28                 | -0.19               |  |
| 15,837.00           | 89.50           | 90.59       | 6,980.91            | -363.77    | 8,199.90   | 8,207.22              | 0.93                  | 0.68                 | -0.64               |  |
| 15,931.00           | 88.02           | 91.07       | 6,982.95            | -365.14    | 8,293.86   | 8,301.18              | 1.66                  | -1.57                | 0.51                |  |
| 16,026.00           | 88.73           | 91.10       | 6,985.64            | -366.93    | 8,388.81   | 8,396.14              | 0.75                  | 0.75                 | 0.03                |  |
| 16,122.00           | 89.78           | 91.02       | 6,986.89            | -368.71    | 8,484.78   | 8,492.12              | 1.10                  | 1.09                 | -0.08               |  |
| 16,218.00           | 88.90           | 90.58       | 6,987.99            | -370.05    | 8,580.76   | 8,588.10              | 1.02                  | -0.92                | -0.46               |  |
| 16,313.00           | 89.20           | 90.55       | 6,989.57            | -370.99    | 8,675.74   | 8,683.06              | 0.32                  | 0.32                 | -0.03               |  |



# Lonestar Consulting

## Survey Report



|                  |                      |                                     |                                       |
|------------------|----------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>  | Logos Operating LLC  | <b>Local Co-ordinate Reference:</b> | Well Rosa Unit #656H - Slot B3 (656H) |
| <b>Project:</b>  | Rio Arriba, NM NAD83 | <b>TVD Reference:</b>               | GL 6372' & RKB 25' @ 6397.00ft        |
| <b>Site:</b>     | Rosa Unit 29         | <b>MD Reference:</b>                | GL 6372' & RKB 25' @ 6397.00ft        |
| <b>Well:</b>     | Rosa Unit #656H      | <b>North Reference:</b>             | True                                  |
| <b>Wellbore:</b> | OH                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Design:</b>   | OH                   | <b>Database:</b>                    | EDM_16.0                              |

| Survey              |                 |             |                     |            |            |                       |                       |                      |                     |  |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |  |
| 16,408.00           | 89.36           | 90.30       | 6,990.76            | -371.69    | 8,770.73   | 8,778.03              | 0.31                  | 0.17                 | -0.26               |  |
| 16,502.00           | 89.69           | 89.79       | 6,991.54            | -371.76    | 8,864.73   | 8,871.98              | 0.65                  | 0.35                 | -0.54               |  |
| 16,607.00           | 90.10           | 89.35       | 6,991.73            | -370.98    | 8,969.73   | 8,976.91              | 0.57                  | 0.39                 | -0.42               |  |
| 16,799.00           | 88.96           | 89.22       | 6,993.31            | -368.58    | 9,161.70   | 9,168.72              | 0.60                  | -0.59                | -0.07               |  |
| 16,890.00           | 89.60           | 88.83       | 6,994.45            | -367.03    | 9,252.68   | 9,259.60              | 0.82                  | 0.70                 | -0.43               |  |
| 17,002.00           | 87.41           | 88.20       | 6,997.37            | -364.13    | 9,364.60   | 9,371.38              | 2.03                  | -1.96                | -0.56               |  |
| 17,079.00           | 87.82           | 88.01       | 7,000.58            | -361.59    | 9,441.49   | 9,448.15              | 0.59                  | 0.53                 | -0.25               |  |
| 17,174.00           | 88.52           | 87.50       | 7,003.61            | -357.87    | 9,536.37   | 9,542.87              | 0.91                  | 0.74                 | -0.54               |  |
| 17,268.00           | 89.16           | 87.19       | 7,005.52            | -353.51    | 9,630.25   | 9,636.57              | 0.76                  | 0.68                 | -0.33               |  |
| 17,362.00           | 89.93           | 86.87       | 7,006.26            | -348.64    | 9,724.12   | 9,730.25              | 0.89                  | 0.82                 | -0.34               |  |
| 17,468.00           | 88.59           | 88.26       | 7,007.63            | -344.14    | 9,830.01   | 9,835.95              | 1.82                  | -1.26                | 1.31                |  |
| 17,551.00           | 89.53           | 88.17       | 7,008.99            | -341.56    | 9,912.95   | 9,918.77              | 1.14                  | 1.13                 | -0.11               |  |
| 17,645.00           | 90.67           | 88.07       | 7,008.83            | -338.47    | 10,006.90  | 10,012.58             | 1.22                  | 1.21                 | -0.11               |  |
| 17,740.00           | 91.80           | 87.95       | 7,006.78            | -335.17    | 10,101.82  | 10,107.35             | 1.20                  | 1.19                 | -0.13               |  |
| 17,843.00           | 89.77           | 88.83       | 7,005.37            | -332.28    | 10,204.76  | 10,210.16             | 2.15                  | -1.97                | 0.85                |  |
| 17,928.00           | 90.75           | 88.65       | 7,004.98            | -330.41    | 10,289.74  | 10,295.04             | 1.17                  | 1.15                 | -0.21               |  |
| 18,023.00           | 89.08           | 88.91       | 7,005.13            | -328.39    | 10,384.72  | 10,389.91             | 1.78                  | -1.76                | 0.27                |  |
| 18,117.00           | 89.08           | 88.74       | 7,006.63            | -326.46    | 10,478.69  | 10,483.77             | 0.18                  | 0.00                 | -0.18               |  |
| 18,188.00           | 89.78           | 89.00       | 7,007.34            | -325.06    | 10,549.67  | 10,554.67             | 1.05                  | 0.99                 | 0.37                |  |
| 18,240.00           | 89.78           | 89.00       | 7,007.54            | -324.15    | 10,601.66  | 10,606.61             | 0.00                  | 0.00                 | 0.00                |  |

| Design Annotations  |                     |                   |            |                          |  |
|---------------------|---------------------|-------------------|------------|--------------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            |                          |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) | Comment                  |  |
| 435.00              | 434.99              | 2.78              | -1.12      | First Surface MWD Survey |  |
| 6,454.00            | 6,372.85            | -377.59           | -829.48    | Last Surface MWD Survey  |  |
| 6,501.00            | 6,419.68            | -379.90           | -826.35    | First Curve MWD Survey   |  |
| 7,445.00            | 6,988.63            | -407.14           | -189.61    | Last Curve MWD Survey    |  |
| 7,540.00            | 6,989.19            | -410.75           | -94.69     | First Lateral MWD Survey |  |
| 18,188.00           | 7,007.34            | -325.06           | 10,549.67  | Last Lateral MWD Survey  |  |
| 18,240.00           | 7,007.54            | -324.15           | 10,601.66  | Projection to TD         |  |

|                   |                    |             |
|-------------------|--------------------|-------------|
| Checked By: _____ | Approved By: _____ | Date: _____ |
|-------------------|--------------------|-------------|

**District I**

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

**District II**

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

**District III**

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

**District IV**

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

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

ACKNOWLEDGMENTS

Action 41983

**ACKNOWLEDGMENTS**

|                                                                               |                                                    |
|-------------------------------------------------------------------------------|----------------------------------------------------|
| Operator:<br>LOGOS OPERATING, LLC<br>2010 Afton Place<br>Farmington, NM 87401 | OGRID:<br>289408                                   |
|                                                                               | Action Number:<br>41983                            |
|                                                                               | Action Type:<br>[C-104] Completion Packet (C-104C) |

**ACKNOWLEDGMENTS**

|                                     |                                                                                                                    |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | I hereby certify that the required Water Use Report has been, or will be, submitted for this wells completion.     |
| <input checked="" type="checkbox"/> | I hereby certify that the required FracFocus disclosure has been, or will be, submitted for this wells completion. |

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

COMMENTS

Action 41983

## COMMENTS

|                                                                               |                                                    |
|-------------------------------------------------------------------------------|----------------------------------------------------|
| Operator:<br>LOGOS OPERATING, LLC<br>2010 Afton Place<br>Farmington, NM 87401 | OGRID:<br>289408                                   |
|                                                                               | Action Number:<br>41983                            |
|                                                                               | Action Type:<br>[C-104] Completion Packet (C-104C) |

## COMMENTS

| Created By | Comment                 | Comment Date |
|------------|-------------------------|--------------|
| kpickford  | KP GEO Review 8/23/2021 | 8/23/2021    |

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CONDITIONS

Action 41983

**CONDITIONS**

|                                                                               |                                                    |
|-------------------------------------------------------------------------------|----------------------------------------------------|
| Operator:<br>LOGOS OPERATING, LLC<br>2010 Afton Place<br>Farmington, NM 87401 | OGRID:<br>289408                                   |
|                                                                               | Action Number:<br>41983                            |
|                                                                               | Action Type:<br>[C-104] Completion Packet (C-104C) |

**CONDITIONS**

| Created By | Condition                              | Condition Date |
|------------|----------------------------------------|----------------|
| plmartinez | TEST ALLOWABLE WILL EXPIRE 11/20/2021. | 8/23/2021      |