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

Form C-102

Revised August 1,  
2011Submit one copy to appropriate  
District Office☒ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                                |                                                                                |                                                              |
|------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------|
| <sup>1</sup> API Number<br><b>30-015-46608</b> | <sup>2</sup> Pool Code<br><b>98220</b>                                         | <sup>3</sup> Pool Name<br><b>Purple Sage; Wolfcamp (Gas)</b> |
| <sup>4</sup> Property Code<br><b>326983</b>    | <sup>5</sup> Property Name<br><b>GOONCH FED COM 0409</b>                       |                                                              |
| <sup>7</sup> OGRID No.<br><b>372920</b>        | <sup>8</sup> Operator Name<br><b>NOVO OIL &amp; GAS NORTHERN DELAWARE, LLC</b> | <sup>6</sup> Well Number<br><b>214H</b>                      |
|                                                |                                                                                | <sup>9</sup> Elevation<br><b>3041.0</b>                      |

<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      |
|---------------|-----------|-------------|-------------|---------|---------------|------------------|---------------|----------------|-------------|
| <b>1-P</b>    | <b>33</b> | <b>22 S</b> | <b>28 E</b> |         | <b>475</b>    | <b>SOUTH</b>     | <b>485</b>    | <b>EAST</b>    | <b>EDDY</b> |

<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      |
|---------------|----------|-------------|-------------|---------|---------------|------------------|---------------|----------------|-------------|
| <b>P</b>      | <b>9</b> | <b>23 S</b> | <b>28 E</b> |         | <b>121</b>    | <b>SOUTH</b>     | <b>456</b>    | <b>EAST</b>    | <b>EDDY</b> |

|                                                |                               |                                              |                         |
|------------------------------------------------|-------------------------------|----------------------------------------------|-------------------------|
| <sup>12</sup> Dedicated Acres<br><b>640.45</b> | <sup>13</sup> Joint or Infill | <sup>14</sup> Consolidation Code<br><b>C</b> | <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.

|  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <p><b>17 OPERATOR CERTIFICATION</b></p> <p>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.</p> <p>Signature: <u>Cory Walk</u> Date: <u>11-18-20</u></p> <p>Printed Name: <u>Cory Walk</u></p> <p>E-mail Address: <u>cory@permitswest.com</u></p> |
|  |  | <p><b>18 SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p>OCTOBER 27, 2020</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor: </p> <p>Certificate Number: <u>WILLIAM F. JARAMILLO, PLS 12797</u></p> <p>Survey No. <u>6795</u></p>                                                                                                                                                                                                                                          |

Intent ☐ As Drilled ☐

|                |                |             |
|----------------|----------------|-------------|
| API #          |                |             |
| Operator Name: | Property Name: | Well Number |

## Kick Off Point (KOP)

|          |         |          |       |     |           |          |      |          |        |
|----------|---------|----------|-------|-----|-----------|----------|------|----------|--------|
| UL       | Section | Township | Range | Lot | Feet      | From N/S | Feet | From E/W | County |
| Latitude |         |          |       |     | Longitude |          |      |          | NAD    |

## First Take Point (FTP)

|          |         |          |       |     |           |          |      |          |        |
|----------|---------|----------|-------|-----|-----------|----------|------|----------|--------|
| UL       | Section | Township | Range | Lot | Feet      | From N/S | Feet | From E/W | County |
| Latitude |         |          |       |     | Longitude |          |      |          | NAD    |

## Last Take Point (LTP)

|          |         |          |       |     |           |          |      |          |        |
|----------|---------|----------|-------|-----|-----------|----------|------|----------|--------|
| UL       | Section | Township | Range | Lot | Feet      | From N/S | Feet | From E/W | County |
| Latitude |         |          |       |     | Longitude |          |      |          | NAD    |

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

|                |                |             |
|----------------|----------------|-------------|
| API #          |                |             |
| Operator Name: | Property Name: | Well Number |

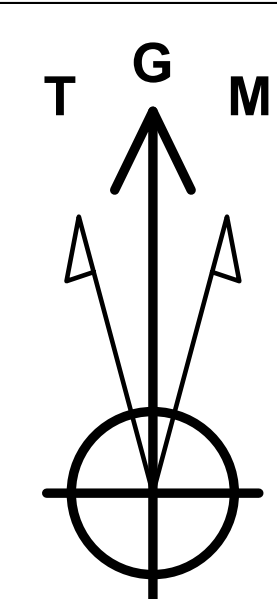
KZ 06/29/2018





Company: Novo Oil & Gas, LLC  
Well: Goonch Fed Com 0409 214H  
County: Eddy County, New Mexico (NAD 83)  
Rig: Precision 566  
Wellbore: Wellbore #1  
Design: Design #3  
Created By: AAT  
Date: 14:14, March 26 2020

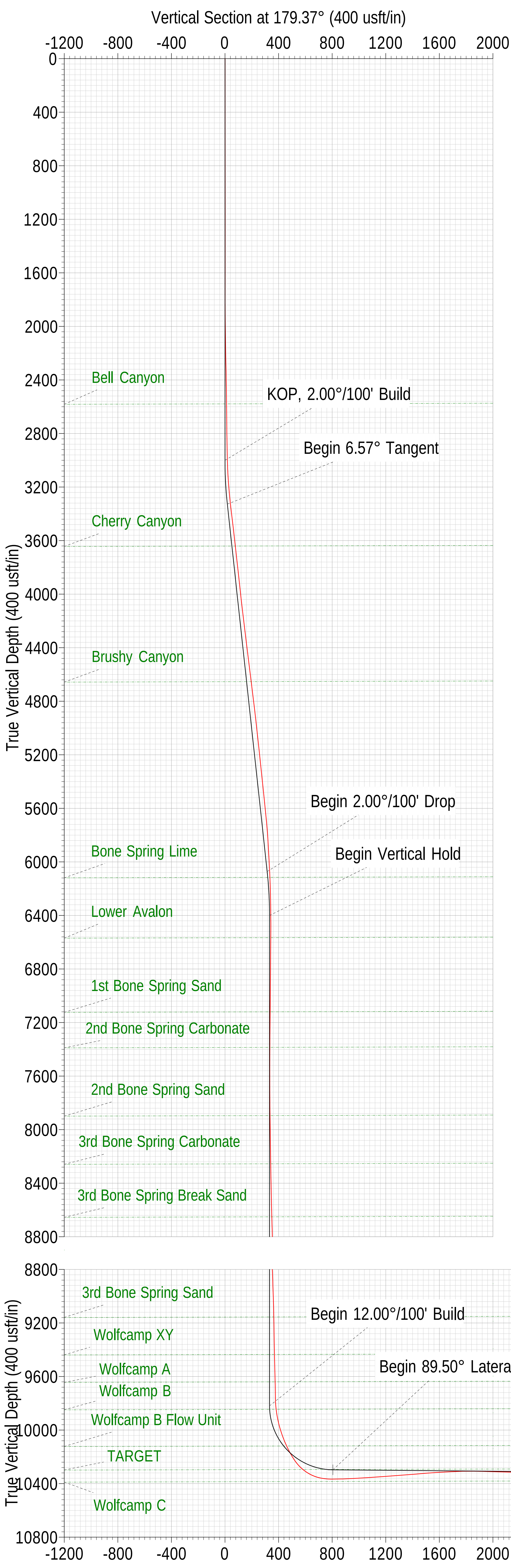
Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: New Mexico Eastern Zone  
System Datum: Mean Sea Level



Azimuths to Grid North  
True North: -0.13°  
Magnetic North: 6.92°  
  
Magnetic Field  
Strength: 47840.8nT  
Dip Angle: 60.07°  
Date: 3/1/2020  
Model: HDGM2020

To convert a Magnetic Direction to a Grid Direction, Add 6.917°  
To convert a Magnetic Direction to a True Direction, Add 7.050° East  
To convert a True Direction to a Grid Direction, Subtract 0.133°

|                               |
|-------------------------------|
| As Drilled Footage Calls      |
| KOP: 98.93' FSL; 413.95' FEL  |
| FTP: 330.00' FNL; 414.12' FEL |
| LTP: 330.00' FSL; 450.81' FEL |



WELL DETAILS: Goonch Fed Com 0409 214H

|       |       |                                       |                                                            |                       |                          |
|-------|-------|---------------------------------------|------------------------------------------------------------|-----------------------|--------------------------|
| +N/-S | +E/-W | GL @ 3041.10<br>Northing<br>488683.09 | WELL @ 3066.10usft (Precision 566)<br>Easting<br>617885.59 | Latitude<br>32.343218 | Longitude<br>-104.085467 |
|-------|-------|---------------------------------------|------------------------------------------------------------|-----------------------|--------------------------|

DESIGN TARGET DETAILS

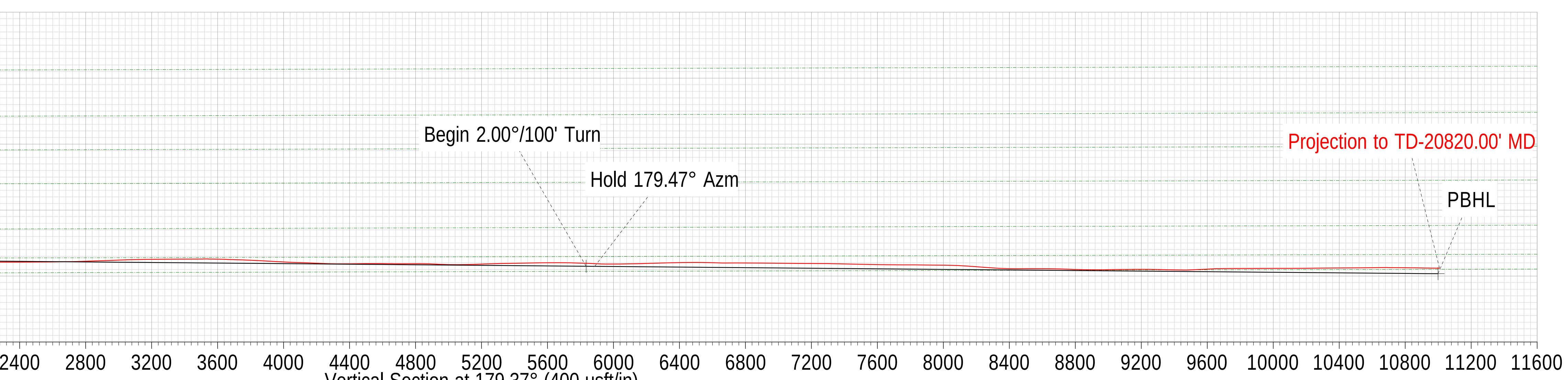
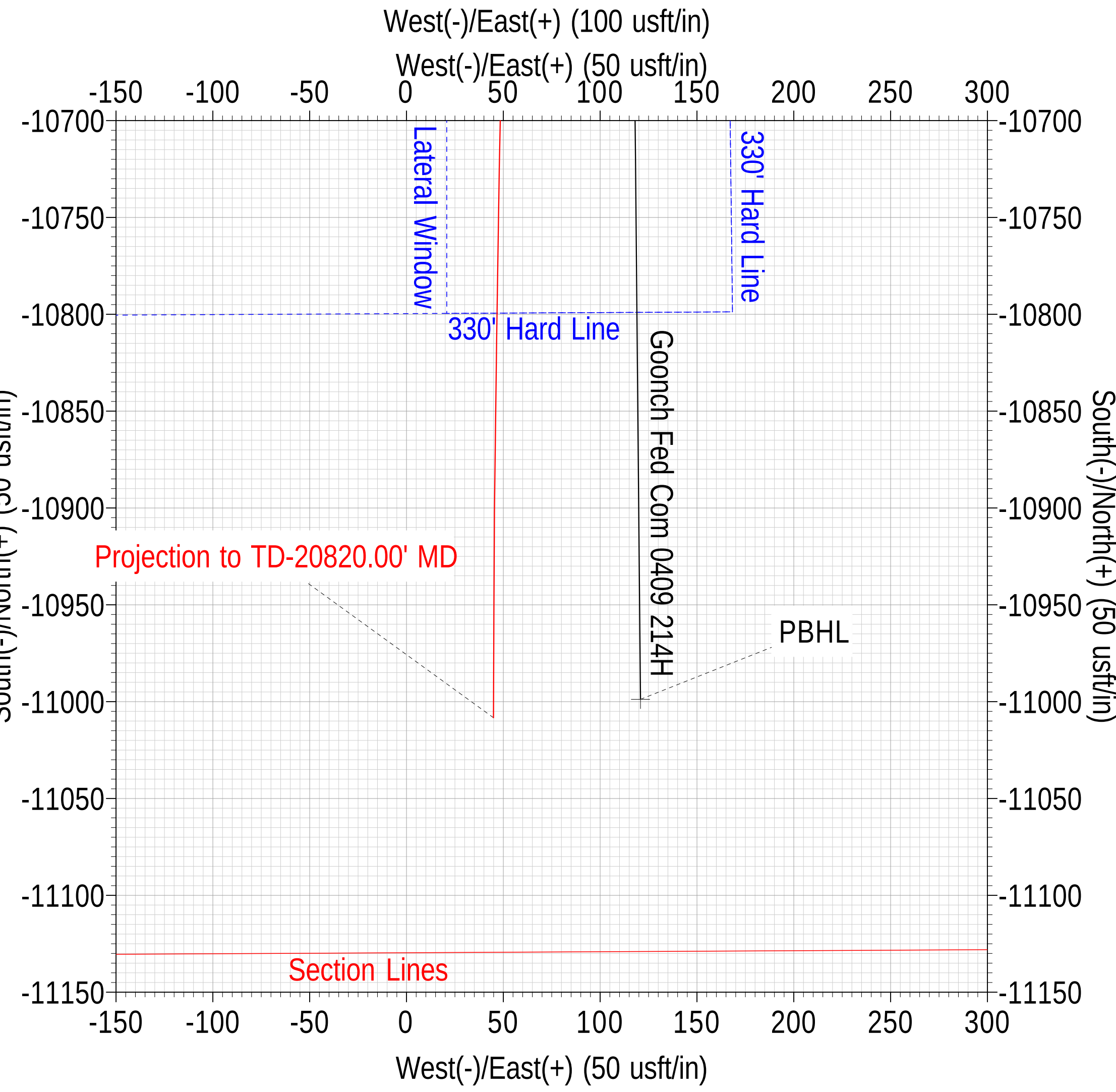
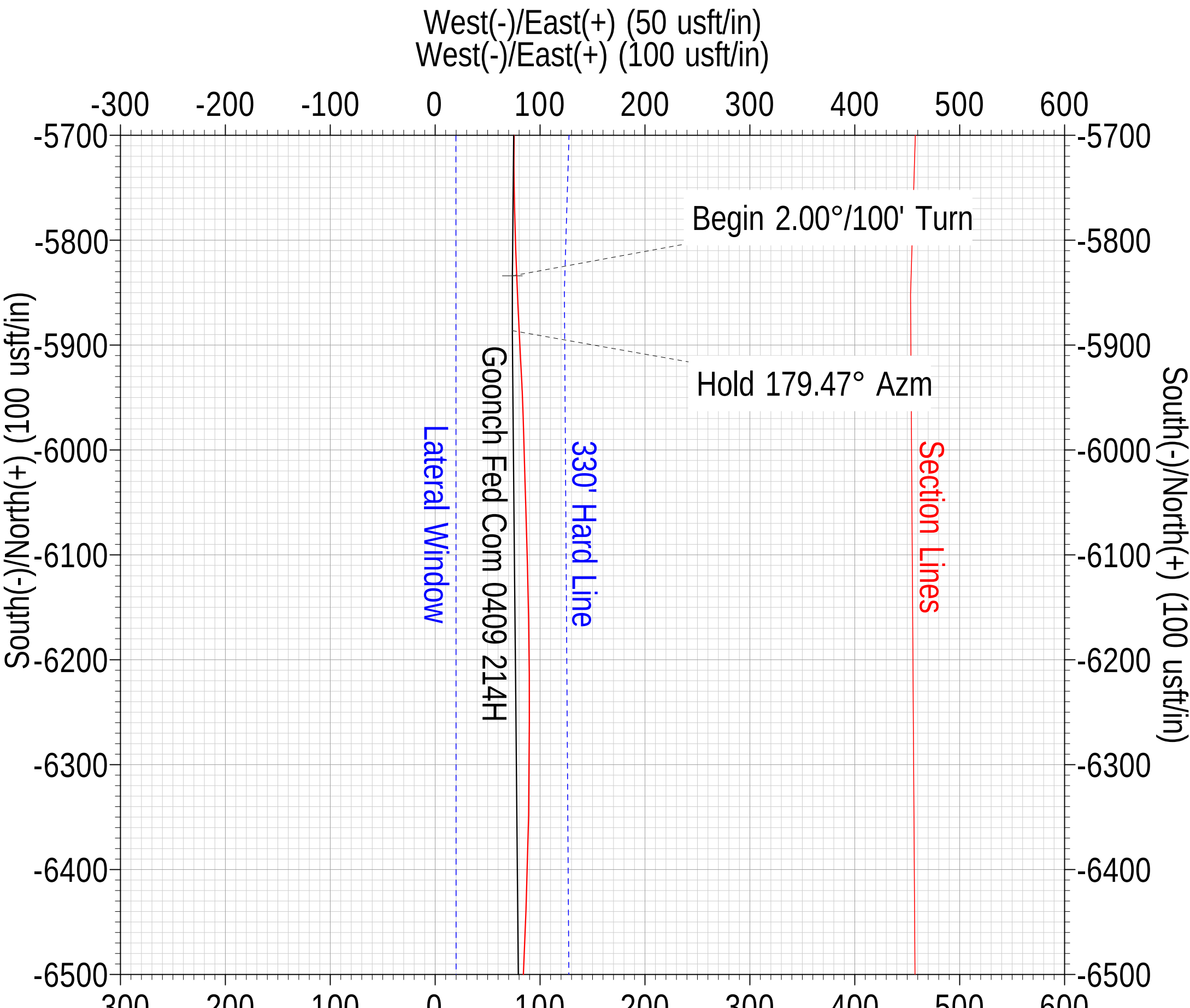
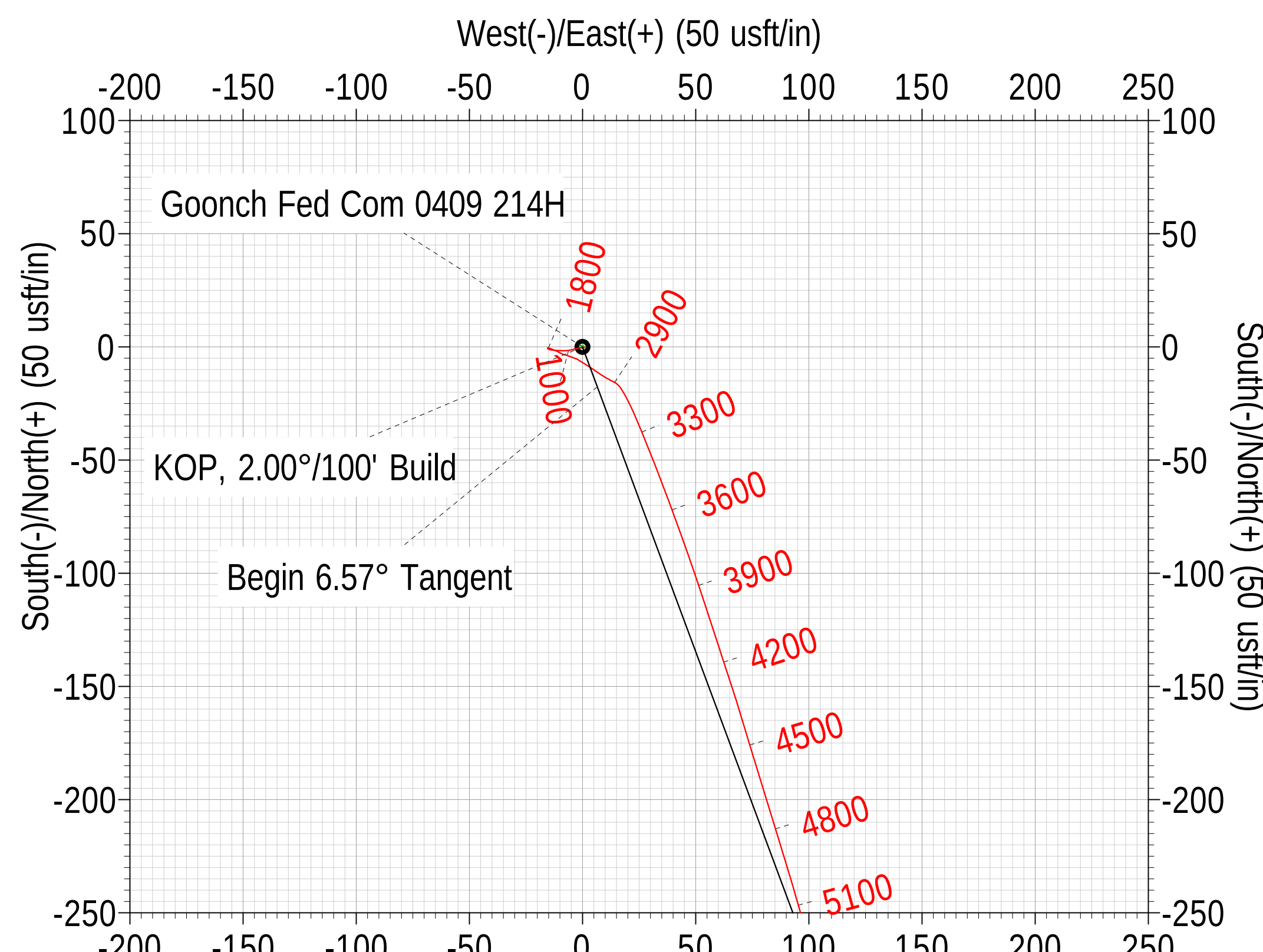
| Name       | TVD      | +N/-S     | +E/-W | Northing  | Easting   | Latitude  | Longitude   |
|------------|----------|-----------|-------|-----------|-----------|-----------|-------------|
| FTP Actual | 10366.74 | -804.83   | 84.83 | 487878.26 | 617970.42 | 32.341005 | -104.085198 |
| KOP Actual | 9769.61  | -375.82   | 77.45 | 488307.27 | 617963.04 | 32.342184 | -104.085219 |
| LTP Actual | 10349.69 | -10799.36 | 46.84 | 477883.73 | 617932.43 | 32.313532 | -104.085396 |

SECTION DETAILS

| MD       | Inc   | Azi    | TVD      | +N/-S     | +E/-W  | Dleg  | TFace   | VSect    | Annotation              |
|----------|-------|--------|----------|-----------|--------|-------|---------|----------|-------------------------|
| 0.00     | 0.00  | 0.00   | 0.00     | 0.00      | 0.00   | 0.00  | 0.000   | 0.00     |                         |
| 3000.00  | 0.00  | 0.00   | 3000.00  | 0.00      | 0.00   | 0.00  | 0.000   | 0.00     | KOP, 2.00°/100' Build   |
| 3328.34  | 6.57  | 159.60 | 3327.62  | -17.62    | 6.55   | 2.00  | 159.605 | 17.69    | Begin 6.57° Tangent     |
| 6091.23  | 6.57  | 159.60 | 6072.38  | -313.77   | 116.66 | 0.00  | 0.000   | 315.04   | Begin 2.00°/100' Drop   |
| 6419.56  | 0.00  | 0.00   | 6400.00  | -331.39   | 123.21 | 2.00  | 180.000 | 332.72   | Begin Vertical Hold     |
| 9839.14  | 0.00  | 0.00   | 9819.58  | -331.39   | 123.21 | 0.00  | 0.000   | 332.72   | Begin 12.00°/100' Build |
| 10584.98 | 89.50 | 180.51 | 10297.03 | -804.67   | 118.96 | 12.00 | 180.515 | 805.93   | Begin 89.50° Lateral    |
| 15614.68 | 89.50 | 180.51 | 10340.92 | -5833.98  | 73.64  | 0.00  | 0.000   | 5834.44  | Begin 2.00°/100' Turn   |
| 15666.89 | 89.50 | 179.47 | 10341.38 | -5886.19  | 73.65  | 2.00  | -90.002 | 5886.64  | Hold 179.47° Azm        |
| 20779.88 | 89.50 | 179.47 | 10385.99 | -10998.76 | 120.87 | 0.00  | 0.000   | 10999.42 | PBHL                    |

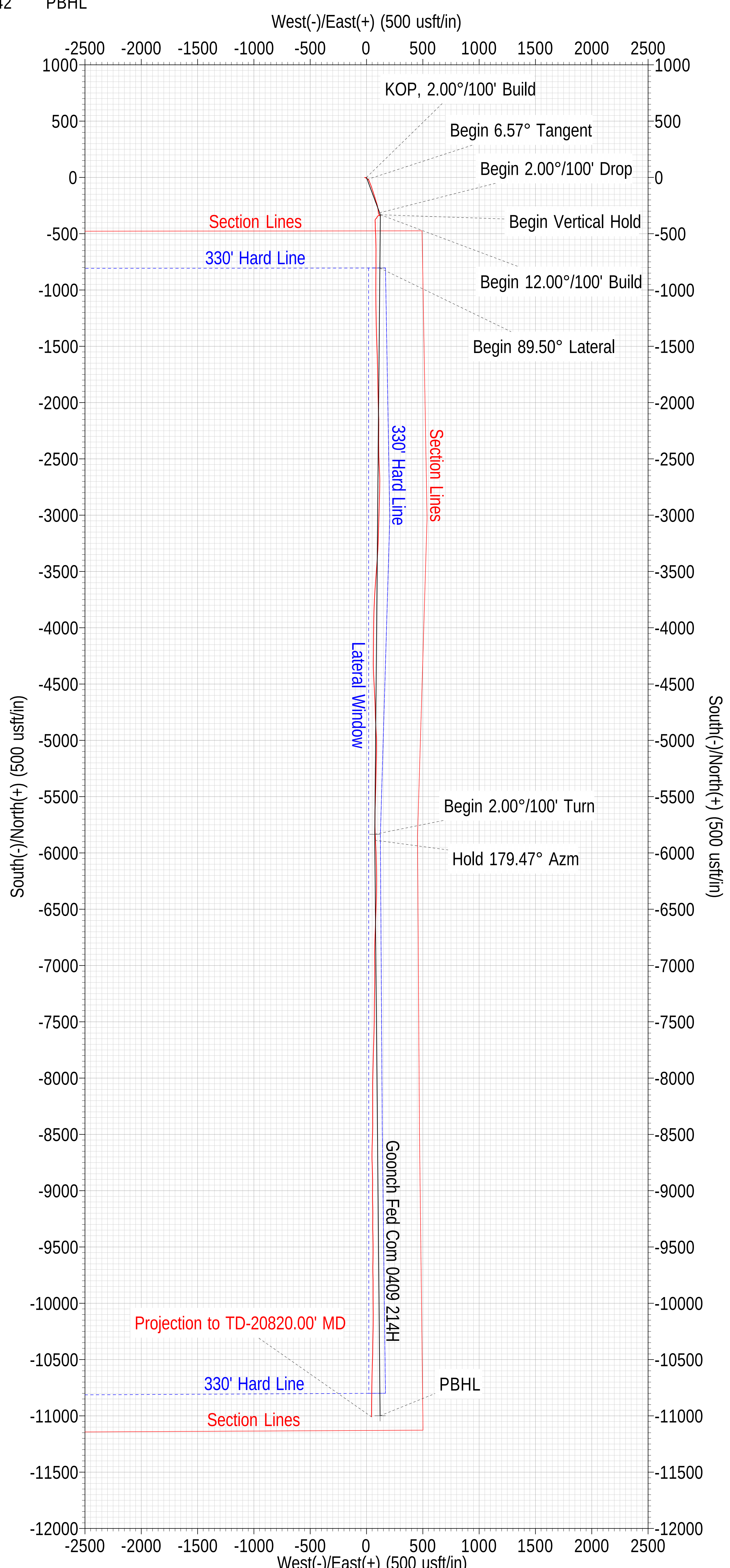
SURVEY PROGRAM

| Depth From | Depth To | Survey/Plan             | Tool     |
|------------|----------|-------------------------|----------|
| 0.00       | 20779.88 | Design #3 (Wellbore #1) | MWD+HRGM |



FORMATION TOP DETAILS

| TVDPath  | MDPath   | Formation                  |
|----------|----------|----------------------------|
| 2579.00  | 2579.00  | Bell Canyon                |
| 3640.87  | 3643.66  | Cherry Canyon              |
| 4653.61  | 4663.08  | Brushy Canyon              |
| 6115.22  | 6134.31  | Bone Spring Lime           |
| 6566.19  | 6585.75  | Lower Avalon               |
| 7120.19  | 7139.75  | 1st Bone Spring Sand       |
| 7385.19  | 7404.75  | 2nd Bone Spring Carbonate  |
| 7895.19  | 7914.75  | 2nd Bone Spring Sand       |
| 8255.19  | 8274.75  | 3rd Bone Spring Carbonate  |
| 8651.19  | 8670.75  | 3rd Bone Spring Break Sand |
| 9155.19  | 9174.75  | 3rd Bone Spring Sand       |
| 9435.19  | 9454.75  | Wolfcamp XY                |
| 9640.19  | 9659.75  | Wolfcamp A                 |
| 9845.19  | 9864.76  | Wolfcamp B                 |
| 10118.93 | 10162.70 | Wolfcamp B Flow Unit       |
| 10294.15 | 10536.56 | TARGET                     |
| 10365.00 | 18374.54 | Wolfcamp C                 |







## **Novo Oil & Gas, LLC**

**Eddy County, New Mexico (NAD 83)**

**Goonch Fed Com 0409**

**Goonch Fed Com 0409 214H**

**Wellbore #1**

**Design: Surveys**

## **Standard Survey Report**

**26 March, 2020**





|                  |                                  |                                     |                                    |
|------------------|----------------------------------|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Novo Oil & Gas, LLC              | <b>Local Co-ordinate Reference:</b> | Well Goonch Fed Com 0409 214H      |
| <b>Project:</b>  | Eddy County, New Mexico (NAD 83) | <b>TVD Reference:</b>               | WELL @ 3066.10usft (Precision 566) |
| <b>Site:</b>     | Goonch Fed Com 0409              | <b>MD Reference:</b>                | WELL @ 3066.10usft (Precision 566) |
| <b>Well:</b>     | Goonch Fed Com 0409 214H         | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                      | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Surveys                          | <b>Database:</b>                    | EDM 5000.15 Conroe Db              |

|                    |                                  |                      |                |
|--------------------|----------------------------------|----------------------|----------------|
| <b>Project</b>     | Eddy County, New Mexico (NAD 83) |                      |                |
| <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 Eastern Zone          |                      |                |

|                              |                     |                          |                 |
|------------------------------|---------------------|--------------------------|-----------------|
| <b>Site</b>                  | Goonch Fed Com 0409 |                          |                 |
| <b>Site Position:</b>        |                     | <b>Northing:</b>         | 488,683.09 usft |
| <b>From:</b>                 | Map                 | <b>Easting:</b>          | 617,885.59 usft |
| <b>Position Uncertainty:</b> | 0.00 usft           | <b>Slot Radius:</b>      | 13-3/16 "       |
|                              |                     | <b>Latitude:</b>         | 32.343218       |
|                              |                     | <b>Longitude:</b>        | -104.085467     |
|                              |                     | <b>Grid Convergence:</b> | 0.133 °         |

|                             |                          |                            |                                  |
|-----------------------------|--------------------------|----------------------------|----------------------------------|
| <b>Well</b>                 | Goonch Fed Com 0409 214H |                            |                                  |
| <b>Well Position</b>        | <b>+N/-S</b>             | 0.00 usft                  | <b>Northing:</b> 488,683.09 usft |
|                             | <b>+E/-W</b>             | 0.00 usft                  | <b>Easting:</b> 617,885.59 usft  |
| <b>Position Uncertainty</b> | 0.00 usft                | <b>Wellhead Elevation:</b> | usft                             |
|                             |                          | <b>Latitude:</b>           | 32.343218                        |
|                             |                          | <b>Longitude:</b>          | -104.085467                      |
|                             |                          | <b>Ground Level:</b>       | 3,041.10 usft                    |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | HDGM2020          | 3/1/2020           | 7.050                  | 60.067               | 47,840.80                  |

|                          |                                |                     |                     |                      |      |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|------|
| <b>Design</b>            | Surveys                        |                     |                     |                      |      |
| <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) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Direction (°)</b> |      |
|                          | 0.00                           | 0.00                | 0.00                | 179.37               |      |

|                       |                  |                          |                  |                    |  |
|-----------------------|------------------|--------------------------|------------------|--------------------|--|
| <b>Survey Program</b> | <b>Date</b>      | 3/26/2020                |                  |                    |  |
| <b>From (usft)</b>    | <b>To (usft)</b> | <b>Survey (Wellbore)</b> | <b>Tool Name</b> | <b>Description</b> |  |
| 100.00                | 20,820.00        | MS MWD (Wellbore #1)     | MWD+HRGM         | OWSG MWD + HRGM    |  |

|                              |                        |                    |                              |                     |                     |                                |                                |                               |                              |  |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|--------------------------------|-------------------------------|------------------------------|--|
| <b>Survey</b>                |                        |                    |                              |                     |                     |                                |                                |                               |                              |  |
| <b>Measured Depth (usft)</b> | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Vertical Section (usft)</b> | <b>Dogleg Rate (°/100usft)</b> | <b>Build Rate (°/100usft)</b> | <b>Turn Rate (°/100usft)</b> |  |
| 0.00                         | 0.00                   | 0.00               | 0.00                         | 0.00                | 0.00                | 0.00                           | 0.00                           | 0.00                          | 0.00                         |  |
| 100.00                       | 0.70                   | 100.00             | 100.00                       | -0.11               | 0.60                | 0.11                           | 0.70                           | 0.70                          | 0.00                         |  |
| 209.00                       | 0.40                   | 295.00             | 209.00                       | -0.06               | 0.91                | 0.07                           | 1.00                           | -0.28                         | -151.38                      |  |
| 293.00                       | 0.40                   | 130.00             | 292.99                       | -0.13               | 0.87                | 0.14                           | 0.94                           | 0.00                          | -196.43                      |  |
| 417.00                       | 0.40                   | 286.00             | 416.99                       | -0.28               | 0.79                | 0.29                           | 0.63                           | 0.00                          | 125.81                       |  |
| 498.00                       | 0.80                   | 259.60             | 497.99                       | -0.31               | -0.04               | 0.31                           | 0.59                           | 0.49                          | -32.59                       |  |
| 590.00                       | 0.60                   | 262.20             | 589.98                       | -0.49               | -1.15               | 0.48                           | 0.22                           | -0.22                         | 2.83                         |  |
| 683.00                       | 0.60                   | 262.20             | 682.98                       | -0.62               | -2.11               | 0.60                           | 0.00                           | 0.00                          | 0.00                         |  |
| 774.00                       | 0.70                   | 256.10             | 773.97                       | -0.82               | -3.13               | 0.79                           | 0.13                           | 0.11                          | -6.70                        |  |
| 864.00                       | 0.70                   | 256.80             | 863.96                       | -1.08               | -4.20               | 1.03                           | 0.01                           | 0.00                          | 0.78                         |  |


**MS Directional**  
 Survey Report


|                  |                                  |                                     |                                    |
|------------------|----------------------------------|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Novo Oil & Gas, LLC              | <b>Local Co-ordinate Reference:</b> | Well Goonch Fed Com 0409 214H      |
| <b>Project:</b>  | Eddy County, New Mexico (NAD 83) | <b>TVD Reference:</b>               | WELL @ 3066.10usft (Precision 566) |
| <b>Site:</b>     | Goonch Fed Com 0409              | <b>MD Reference:</b>                | WELL @ 3066.10usft (Precision 566) |
| <b>Well:</b>     | Goonch Fed Com 0409 214H         | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                      | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Surveys                          | <b>Database:</b>                    | EDM 5000.15 Conroe Db              |

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 953.00                | 0.90            | 256.00      | 952.96                | -1.37        | -5.40        | 1.31                    | 0.23                    | 0.22                   | -0.90                 |
| 1,044.00              | 1.10            | 263.10      | 1,043.94              | -1.65        | -6.96        | 1.57                    | 0.26                    | 0.22                   | 7.80                  |
| 1,134.00              | 0.90            | 276.50      | 1,133.93              | -1.67        | -8.52        | 1.58                    | 0.34                    | -0.22                  | 14.89                 |
| 1,224.00              | 1.10            | 272.40      | 1,223.91              | -1.56        | -10.09       | 1.45                    | 0.24                    | 0.22                   | -4.56                 |
| 1,314.00              | 0.70            | 269.40      | 1,313.90              | -1.53        | -11.50       | 1.40                    | 0.45                    | -0.44                  | -3.33                 |
| 1,405.00              | 0.70            | 277.40      | 1,404.90              | -1.46        | -12.61       | 1.32                    | 0.11                    | 0.00                   | 8.79                  |
| 1,496.00              | 0.70            | 278.20      | 1,495.89              | -1.31        | -13.71       | 1.16                    | 0.01                    | 0.00                   | 0.88                  |
| 1,585.00              | 0.70            | 285.70      | 1,584.88              | -1.08        | -14.77       | 0.92                    | 0.10                    | 0.00                   | 8.43                  |
| 1,676.00              | 0.40            | 330.70      | 1,675.88              | -0.66        | -15.46       | 0.49                    | 0.55                    | -0.33                  | 49.45                 |
| 1,766.00              | 0.30            | 93.80       | 1,765.88              | -0.40        | -15.38       | 0.23                    | 0.69                    | -0.11                  | 136.78                |
| 1,855.00              | 1.40            | 107.60      | 1,854.87              | -0.74        | -14.11       | 0.59                    | 1.25                    | 1.24                   | 15.51                 |
| 1,944.00              | 2.00            | 115.30      | 1,943.83              | -1.74        | -11.67       | 1.61                    | 0.72                    | 0.67                   | 8.65                  |
| 2,034.00              | 2.00            | 118.00      | 2,033.77              | -3.14        | -8.87        | 3.05                    | 0.10                    | 0.00                   | 3.00                  |
| 2,123.00              | 2.20            | 97.40       | 2,122.71              | -4.09        | -5.80        | 4.03                    | 0.87                    | 0.22                   | -23.15                |
| 2,212.00              | 2.60            | 121.40      | 2,211.64              | -5.36        | -2.38        | 5.34                    | 1.20                    | 0.45                   | 26.97                 |
| 2,302.00              | 2.20            | 122.80      | 2,301.56              | -7.36        | 0.81         | 7.37                    | 0.45                    | -0.44                  | 1.56                  |
| 2,391.00              | 1.50            | 121.50      | 2,390.51              | -8.90        | 3.24         | 8.93                    | 0.79                    | -0.79                  | -1.46                 |
| 2,480.00              | 1.40            | 126.50      | 2,479.48              | -10.15       | 5.11         | 10.21                   | 0.18                    | -0.11                  | 5.62                  |
| 2,569.00              | 1.50            | 121.50      | 2,568.46              | -11.41       | 6.98         | 11.49                   | 0.18                    | 0.11                   | -5.62                 |
| 2,658.00              | 1.40            | 125.20      | 2,657.43              | -12.64       | 8.86         | 12.74                   | 0.15                    | -0.11                  | 4.16                  |
| 2,747.00              | 1.60            | 118.20      | 2,746.40              | -13.86       | 10.84        | 13.98                   | 0.30                    | 0.22                   | -7.87                 |
| 2,836.00              | 1.40            | 118.40      | 2,835.37              | -14.96       | 12.89        | 15.10                   | 0.22                    | -0.22                  | 0.22                  |
| 2,926.00              | 1.20            | 118.80      | 2,925.34              | -15.94       | 14.68        | 16.10                   | 0.22                    | -0.22                  | 0.44                  |
| 3,015.00              | 2.30            | 142.50      | 3,014.30              | -17.81       | 16.59        | 17.99                   | 1.45                    | 1.24                   | 26.63                 |
| 3,193.00              | 5.00            | 155.50      | 3,191.93              | -27.70       | 21.98        | 27.94                   | 1.58                    | 1.52                   | 7.30                  |
| 3,372.00              | 7.30            | 158.60      | 3,369.88              | -45.39       | 29.37        | 45.71                   | 1.30                    | 1.28                   | 1.73                  |
| 3,550.00              | 6.90            | 159.10      | 3,546.52              | -65.91       | 37.31        | 66.31                   | 0.23                    | -0.22                  | 0.28                  |
| 3,729.00              | 6.90            | 160.60      | 3,724.22              | -86.09       | 44.71        | 86.58                   | 0.10                    | 0.00                   | 0.84                  |
| 3,907.00              | 6.30            | 161.50      | 3,901.04              | -105.44      | 51.36        | 106.00                  | 0.34                    | -0.34                  | 0.51                  |
| 4,085.00              | 6.90            | 162.00      | 4,077.86              | -124.87      | 57.77        | 125.50                  | 0.34                    | 0.34                   | 0.28                  |
| 4,264.00              | 7.30            | 161.80      | 4,255.49              | -145.90      | 64.64        | 146.60                  | 0.22                    | 0.22                   | -0.11                 |
| 4,442.00              | 7.30            | 163.30      | 4,432.05              | -167.47      | 71.42        | 168.25                  | 0.11                    | 0.00                   | 0.84                  |
| 4,620.00              | 7.40            | 163.00      | 4,608.58              | -189.27      | 78.02        | 190.11                  | 0.06                    | 0.06                   | -0.17                 |
| 4,798.00              | 7.30            | 162.90      | 4,785.12              | -211.04      | 84.70        | 211.96                  | 0.06                    | -0.06                  | -0.06                 |
| 4,977.00              | 6.60            | 163.10      | 4,962.80              | -231.75      | 91.04        | 232.74                  | 0.39                    | -0.39                  | 0.11                  |
| 5,155.00              | 6.20            | 164.70      | 5,139.70              | -250.81      | 96.55        | 251.86                  | 0.25                    | -0.22                  | 0.90                  |
| 5,333.00              | 6.20            | 171.40      | 5,316.66              | -269.59      | 100.52       | 270.67                  | 0.41                    | 0.00                   | 3.76                  |
| 5,512.00              | 5.90            | 172.60      | 5,494.66              | -288.27      | 103.15       | 289.38                  | 0.18                    | -0.17                  | 0.67                  |
| 5,690.00              | 5.70            | 174.80      | 5,671.75              | -306.14      | 105.13       | 307.28                  | 0.17                    | -0.11                  | 1.24                  |
| 5,869.00              | 3.70            | 156.00      | 5,850.15              | -320.27      | 108.28       | 321.44                  | 1.40                    | -1.12                  | -10.50                |
| 6,047.00              | 3.30            | 153.30      | 6,027.82              | -330.10      | 112.92       | 331.32                  | 0.24                    | -0.22                  | -1.52                 |
| 6,225.00              | 2.20            | 141.80      | 6,205.61              | -337.36      | 117.34       | 338.63                  | 0.69                    | -0.62                  | -6.46                 |
| 6,403.00              | 0.30            | 201.90      | 6,383.56              | -340.48      | 119.28       | 341.77                  | 1.16                    | -1.07                  | 33.76                 |
| 6,582.00              | 0.20            | 80.80       | 6,562.56              | -340.86      | 119.41       | 342.15                  | 0.24                    | -0.06                  | -67.65                |



# MS Directional Survey Report



|                  |                                  |                                     |                                    |
|------------------|----------------------------------|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Novo Oil & Gas, LLC              | <b>Local Co-ordinate Reference:</b> | Well Goonch Fed Com 0409 214H      |
| <b>Project:</b>  | Eddy County, New Mexico (NAD 83) | <b>TVD Reference:</b>               | WELL @ 3066.10usft (Precision 566) |
| <b>Site:</b>     | Goonch Fed Com 0409              | <b>MD Reference:</b>                | WELL @ 3066.10usft (Precision 566) |
| <b>Well:</b>     | Goonch Fed Com 0409 214H         | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                      | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Surveys                          | <b>Database:</b>                    | EDM 5000.15 Conroe Db              |

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 6,760.00              | 0.90            | 24.10       | 6,740.55              | -339.54      | 120.29       | 340.84                  | 0.45                    | 0.39                   | -31.85                |
| 6,938.00              | 0.60            | 14.40       | 6,918.54              | -337.36      | 121.09       | 338.67                  | 0.18                    | -0.17                  | -5.45                 |
| 7,116.00              | 0.50            | 2.50        | 7,096.53              | -335.68      | 121.36       | 336.99                  | 0.09                    | -0.06                  | -6.69                 |
| 7,295.00              | 0.40            | 304.60      | 7,275.52              | -334.54      | 120.88       | 335.85                  | 0.25                    | -0.06                  | -32.35                |
| 7,473.00              | 0.60            | 295.10      | 7,453.52              | -333.79      | 119.52       | 335.09                  | 0.12                    | 0.11                   | -5.34                 |
| 7,652.00              | 0.70            | 268.40      | 7,632.51              | -333.43      | 117.58       | 334.70                  | 0.18                    | 0.06                   | -14.92                |
| 7,830.00              | 1.50            | 251.00      | 7,810.47              | -334.22      | 114.29       | 335.45                  | 0.48                    | 0.45                   | -9.78                 |
| 8,009.00              | 1.60            | 239.00      | 7,989.41              | -336.27      | 109.93       | 337.45                  | 0.19                    | 0.06                   | -6.70                 |
| 8,187.00              | 1.40            | 231.00      | 8,167.35              | -338.91      | 106.11       | 340.06                  | 0.16                    | -0.11                  | -4.49                 |
| 8,366.00              | 1.60            | 232.80      | 8,346.28              | -341.80      | 102.42       | 342.91                  | 0.11                    | 0.11                   | 1.01                  |
| 8,544.00              | 1.80            | 225.00      | 8,524.21              | -345.28      | 98.47        | 346.34                  | 0.17                    | 0.11                   | -4.38                 |
| 8,723.00              | 1.90            | 209.60      | 8,703.11              | -349.85      | 95.01        | 350.87                  | 0.28                    | 0.06                   | -8.60                 |
| 8,901.00              | 2.10            | 199.80      | 8,881.01              | -355.48      | 92.45        | 356.48                  | 0.22                    | 0.11                   | -5.51                 |
| 9,080.00              | 2.00            | 208.20      | 9,059.89              | -361.32      | 89.86        | 362.29                  | 0.18                    | -0.06                  | 4.69                  |
| 9,258.00              | 1.90            | 252.00      | 9,237.80              | -364.97      | 85.59        | 365.89                  | 0.82                    | -0.06                  | 24.61                 |
| 9,437.00              | 1.60            | 204.10      | 9,416.72              | -368.17      | 81.75        | 369.05                  | 0.81                    | -0.17                  | -26.76                |
| 9,615.00              | 1.50            | 211.40      | 9,594.66              | -372.43      | 79.52        | 373.28                  | 0.12                    | -0.06                  | 4.10                  |
| 9,790.00              | 1.10            | 211.20      | 9,769.61              | -375.82      | 77.45        | 376.65                  | 0.23                    | -0.23                  | -0.11                 |
| 9,834.00              | 4.70            | 185.50      | 9,813.55              | -377.97      | 77.06        | 378.80                  | 8.50                    | 8.18                   | -58.41                |
| 9,879.00              | 7.60            | 181.30      | 9,858.29              | -382.79      | 76.82        | 383.61                  | 6.52                    | 6.44                   | -9.33                 |
| 9,924.00              | 10.50           | 176.60      | 9,902.72              | -389.86      | 76.99        | 390.68                  | 6.65                    | 6.44                   | -10.44                |
| 9,969.00              | 13.50           | 177.30      | 9,946.73              | -399.20      | 77.48        | 400.03                  | 6.67                    | 6.67                   | 1.56                  |
| 10,013.00             | 16.60           | 178.90      | 9,989.22              | -410.61      | 77.85        | 411.45                  | 7.11                    | 7.05                   | 3.64                  |
| 10,058.00             | 18.90           | 179.40      | 10,032.08             | -424.33      | 78.05        | 425.16                  | 5.12                    | 5.11                   | 1.11                  |
| 10,103.00             | 22.10           | 179.20      | 10,074.22             | -440.09      | 78.24        | 440.92                  | 7.11                    | 7.11                   | -0.44                 |
| 10,147.00             | 24.40           | 177.50      | 10,114.65             | -457.45      | 78.75        | 458.28                  | 5.44                    | 5.23                   | -3.86                 |
| 10,192.00             | 27.50           | 176.10      | 10,155.10             | -477.10      | 79.87        | 477.95                  | 7.02                    | 6.89                   | -3.11                 |
| 10,237.00             | 30.70           | 176.20      | 10,194.42             | -498.93      | 81.33        | 499.80                  | 7.11                    | 7.11                   | 0.22                  |
| 10,281.00             | 35.10           | 179.20      | 10,231.35             | -522.80      | 82.26        | 523.68                  | 10.66                   | 10.00                  | 6.82                  |
| 10,325.00             | 42.50           | 179.00      | 10,265.62             | -550.35      | 82.69        | 551.23                  | 16.82                   | 16.82                  | -0.45                 |
| 10,370.00             | 51.30           | 178.10      | 10,296.34             | -583.17      | 83.54        | 584.05                  | 19.61                   | 19.56                  | -2.00                 |
| 10,414.00             | 58.50           | 179.10      | 10,321.62             | -619.13      | 84.41        | 620.02                  | 16.47                   | 16.36                  | 2.27                  |
| 10,459.00             | 67.60           | 180.00      | 10,342.00             | -659.20      | 84.71        | 660.09                  | 20.30                   | 20.22                  | 2.00                  |
| 10,504.00             | 76.00           | 180.40      | 10,356.04             | -701.91      | 84.56        | 702.80                  | 18.69                   | 18.67                  | 0.89                  |
| 10,521.00             | 80.10           | 180.20      | 10,359.56             | -718.54      | 84.47        | 719.42                  | 24.15                   | 24.12                  | -1.18                 |
| 10,595.00             | 89.00           | 179.40      | 10,366.58             | -792.13      | 84.73        | 793.01                  | 12.07                   | 12.03                  | -1.08                 |
| 10,685.00             | 92.80           | 181.20      | 10,365.17             | -882.09      | 84.26        | 882.97                  | 4.67                    | 4.22                   | 2.00                  |
| 10,774.00             | 92.40           | 180.60      | 10,361.13             | -970.99      | 82.86        | 971.84                  | 0.81                    | -0.45                  | -0.67                 |
| 10,863.00             | 94.30           | 179.40      | 10,355.93             | -1,059.83    | 82.86        | 1,060.68                | 2.52                    | 2.13                   | -1.35                 |
| 10,953.00             | 94.10           | 179.00      | 10,349.34             | -1,149.58    | 84.12        | 1,150.44                | 0.50                    | -0.22                  | -0.44                 |
| 11,042.00             | 94.00           | 179.10      | 10,343.05             | -1,238.35    | 85.59        | 1,239.21                | 0.16                    | -0.11                  | 0.11                  |
| 11,131.00             | 94.30           | 178.80      | 10,336.61             | -1,327.10    | 87.21        | 1,327.98                | 0.48                    | 0.34                   | -0.34                 |
| 11,220.00             | 94.70           | 178.20      | 10,329.63             | -1,415.79    | 89.54        | 1,416.69                | 0.81                    | 0.45                   | -0.67                 |




**MS Directional**  
 Survey Report


|                  |                                  |                                     |                                    |
|------------------|----------------------------------|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Novo Oil & Gas, LLC              | <b>Local Co-ordinate Reference:</b> | Well Goonch Fed Com 0409 214H      |
| <b>Project:</b>  | Eddy County, New Mexico (NAD 83) | <b>TVD Reference:</b>               | WELL @ 3066.10usft (Precision 566) |
| <b>Site:</b>     | Goonch Fed Com 0409              | <b>MD Reference:</b>                | WELL @ 3066.10usft (Precision 566) |
| <b>Well:</b>     | Goonch Fed Com 0409 214H         | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                      | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Surveys                          | <b>Database:</b>                    | EDM 5000.15 Conroe Db              |

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 11,310.00             | 94.90           | 177.60      | 10,322.10             | -1,505.42    | 92.82        | 1,506.35                | 0.70                    | 0.22                   | -0.67                 |
| 11,399.00             | 92.90           | 178.70      | 10,316.04             | -1,594.16    | 95.69        | 1,595.12                | 2.56                    | -2.25                  | 1.24                  |
| 11,488.00             | 93.20           | 178.30      | 10,311.31             | -1,683.00    | 98.01        | 1,683.98                | 0.56                    | 0.34                   | -0.45                 |
| 11,577.00             | 91.30           | 179.10      | 10,307.81             | -1,771.91    | 100.03       | 1,772.90                | 2.32                    | -2.13                  | 0.90                  |
| 11,666.00             | 89.00           | 179.20      | 10,307.58             | -1,860.89    | 101.35       | 1,861.89                | 2.59                    | -2.58                  | 0.11                  |
| 11,755.00             | 88.30           | 178.20      | 10,309.68             | -1,949.84    | 103.37       | 1,950.86                | 1.37                    | -0.79                  | -1.12                 |
| 11,844.00             | 88.70           | 178.40      | 10,312.01             | -2,038.77    | 106.01       | 2,039.81                | 0.50                    | 0.45                   | 0.22                  |
| 11,934.00             | 88.50           | 178.00      | 10,314.21             | -2,128.70    | 108.84       | 2,129.77                | 0.50                    | -0.22                  | -0.44                 |
| 12,023.00             | 89.70           | 181.20      | 10,315.60             | -2,217.67    | 109.46       | 2,218.74                | 3.84                    | 1.35                   | 3.60                  |
| 12,112.00             | 90.00           | 180.00      | 10,315.84             | -2,306.67    | 108.52       | 2,307.72                | 1.39                    | 0.34                   | -1.35                 |
| 12,202.00             | 90.30           | 179.70      | 10,315.60             | -2,396.67    | 108.76       | 2,397.72                | 0.47                    | 0.33                   | -0.33                 |
| 12,291.00             | 90.60           | 178.30      | 10,314.90             | -2,485.65    | 110.31       | 2,486.71                | 1.61                    | 0.34                   | -1.57                 |
| 12,403.00             | 90.10           | 177.00      | 10,314.22             | -2,597.55    | 114.91       | 2,598.65                | 1.24                    | -0.45                  | -1.16                 |
| 12,492.00             | 91.10           | 179.00      | 10,313.29             | -2,686.48    | 118.01       | 2,687.62                | 2.51                    | 1.12                   | 2.25                  |
| 12,581.00             | 91.80           | 181.80      | 10,311.03             | -2,775.44    | 117.39       | 2,776.57                | 3.24                    | 0.79                   | 3.15                  |
| 12,670.00             | 91.90           | 181.80      | 10,308.16             | -2,864.35    | 114.60       | 2,865.44                | 0.11                    | 0.11                   | 0.00                  |
| 12,760.00             | 91.70           | 181.40      | 10,305.33             | -2,954.27    | 112.08       | 2,955.33                | 0.50                    | -0.22                  | -0.44                 |
| 12,849.00             | 92.00           | 181.60      | 10,302.46             | -3,043.20    | 109.76       | 3,044.22                | 0.41                    | 0.34                   | 0.22                  |
| 12,939.00             | 91.90           | 181.60      | 10,299.40             | -3,133.11    | 107.24       | 3,134.10                | 0.11                    | -0.11                  | 0.00                  |
| 13,028.00             | 89.60           | 181.80      | 10,298.23             | -3,222.06    | 104.60       | 3,223.01                | 2.59                    | -2.58                  | 0.22                  |
| 13,118.00             | 90.30           | 183.40      | 10,298.31             | -3,311.96    | 100.52       | 3,312.86                | 1.94                    | 0.78                   | 1.78                  |
| 13,208.00             | 90.10           | 183.80      | 10,298.00             | -3,401.78    | 94.87        | 3,402.62                | 0.50                    | -0.22                  | 0.44                  |
| 13,297.00             | 91.10           | 184.60      | 10,297.07             | -3,490.54    | 88.35        | 3,491.30                | 1.44                    | 1.12                   | 0.90                  |
| 13,386.00             | 88.40           | 183.80      | 10,297.45             | -3,579.29    | 81.84        | 3,579.97                | 3.16                    | -3.03                  | -0.90                 |
| 13,476.00             | 88.40           | 184.50      | 10,299.97             | -3,669.02    | 75.33        | 3,669.62                | 0.78                    | 0.00                   | 0.78                  |
| 13,565.00             | 88.00           | 182.30      | 10,302.76             | -3,757.81    | 70.05        | 3,758.35                | 2.51                    | -0.45                  | -2.47                 |
| 13,655.00             | 87.20           | 181.60      | 10,306.53             | -3,847.68    | 66.99        | 3,848.18                | 1.18                    | -0.89                  | -0.78                 |
| 13,744.00             | 86.60           | 181.40      | 10,311.34             | -3,936.52    | 64.66        | 3,936.99                | 0.71                    | -0.67                  | -0.22                 |
| 13,834.00             | 87.50           | 180.20      | 10,315.98             | -4,026.39    | 63.41        | 4,026.84                | 1.67                    | 1.00                   | -1.33                 |
| 13,924.00             | 88.40           | 180.90      | 10,319.20             | -4,116.32    | 62.55        | 4,116.76                | 1.27                    | 1.00                   | 0.78                  |
| 14,013.00             | 87.10           | 180.40      | 10,322.69             | -4,205.25    | 61.54        | 4,205.67                | 1.56                    | -1.46                  | -0.56                 |
| 14,102.00             | 88.70           | 180.40      | 10,325.95             | -4,294.18    | 60.92        | 4,294.59                | 1.80                    | 1.80                   | 0.00                  |
| 14,192.00             | 90.80           | 177.60      | 10,326.34             | -4,384.15    | 62.49        | 4,384.57                | 3.89                    | 2.33                   | -3.11                 |
| 14,282.00             | 90.50           | 177.40      | 10,325.32             | -4,474.06    | 66.41        | 4,474.52                | 0.40                    | -0.33                  | -0.22                 |
| 14,371.00             | 90.30           | 177.30      | 10,324.70             | -4,562.96    | 70.53        | 4,563.46                | 0.25                    | -0.22                  | -0.11                 |
| 14,461.00             | 89.20           | 176.90      | 10,325.09             | -4,652.85    | 75.08        | 4,653.39                | 1.30                    | -1.22                  | -0.44                 |
| 14,550.00             | 90.60           | 179.50      | 10,325.25             | -4,741.79    | 77.87        | 4,742.36                | 3.32                    | 1.57                   | 2.92                  |
| 14,640.00             | 89.50           | 176.90      | 10,325.17             | -4,831.74    | 80.70        | 4,832.33                | 3.14                    | -1.22                  | -2.89                 |
| 14,729.00             | 87.20           | 176.80      | 10,327.73             | -4,920.56    | 85.59        | 4,921.20                | 2.59                    | -2.58                  | -0.11                 |
| 14,818.00             | 88.40           | 178.50      | 10,331.15             | -5,009.42    | 89.24        | 5,010.09                | 2.34                    | 1.35                   | 1.91                  |
| 14,907.00             | 92.20           | 181.40      | 10,330.68             | -5,098.39    | 89.31        | 5,099.06                | 5.37                    | 4.27                   | 3.26                  |
| 14,997.00             | 91.70           | 181.40      | 10,327.62             | -5,188.31    | 87.12        | 5,188.95                | 0.56                    | -0.56                  | 0.00                  |
| 15,086.00             | 91.30           | 181.20      | 10,325.29             | -5,277.26    | 85.10        | 5,277.87                | 0.50                    | -0.45                  | -0.22                 |


**MS Directional**  
 Survey Report


|                  |                                  |                                     |                                    |
|------------------|----------------------------------|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Novo Oil & Gas, LLC              | <b>Local Co-ordinate Reference:</b> | Well Goonch Fed Com 0409 214H      |
| <b>Project:</b>  | Eddy County, New Mexico (NAD 83) | <b>TVD Reference:</b>               | WELL @ 3066.10usft (Precision 566) |
| <b>Site:</b>     | Goonch Fed Com 0409              | <b>MD Reference:</b>                | WELL @ 3066.10usft (Precision 566) |
| <b>Well:</b>     | Goonch Fed Com 0409 214H         | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                      | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Surveys                          | <b>Database:</b>                    | EDM 5000.15 Conroe Db              |

## Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 15,176.00             | 91.10           | 181.30      | 10,323.41             | -5,367.21    | 83.13        | 5,367.80                | 0.25                    | -0.22                  | 0.11                  |
| 15,265.00             | 90.90           | 181.00      | 10,321.85             | -5,456.18    | 81.35        | 5,456.75                | 0.41                    | -0.22                  | -0.34                 |
| 15,355.00             | 91.00           | 182.60      | 10,320.36             | -5,546.12    | 78.52        | 5,546.65                | 1.78                    | 0.11                   | 1.78                  |
| 15,444.00             | 90.40           | 181.20      | 10,319.27             | -5,635.06    | 75.57        | 5,635.56                | 1.71                    | -0.67                  | -1.57                 |
| 15,534.00             | 88.90           | 179.40      | 10,319.82             | -5,725.06    | 75.10        | 5,725.54                | 2.60                    | -1.67                  | -2.00                 |
| 15,623.00             | 88.00           | 178.10      | 10,322.23             | -5,814.00    | 77.04        | 5,814.49                | 1.78                    | -1.01                  | -1.46                 |
| 15,712.00             | 87.20           | 176.80      | 10,325.96             | -5,902.83    | 81.00        | 5,903.36                | 1.71                    | -0.90                  | -1.46                 |
| 15,802.00             | 90.70           | 178.50      | 10,327.61             | -5,992.72    | 84.69        | 5,993.29                | 4.32                    | 3.89                   | 1.89                  |
| 15,891.00             | 91.10           | 178.20      | 10,326.21             | -6,081.67    | 87.25        | 6,082.27                | 0.56                    | 0.45                   | -0.34                 |
| 15,980.00             | 91.00           | 179.20      | 10,324.58             | -6,170.64    | 89.27        | 6,171.24                | 1.13                    | -0.11                  | 1.12                  |
| 16,069.00             | 91.30           | 180.00      | 10,322.79             | -6,259.61    | 89.89        | 6,260.22                | 0.96                    | 0.34                   | 0.90                  |
| 16,158.00             | 92.30           | 181.00      | 10,320.00             | -6,348.56    | 89.11        | 6,349.16                | 1.59                    | 1.12                   | 1.12                  |
| 16,248.00             | 90.50           | 182.10      | 10,317.80             | -6,438.50    | 86.68        | 6,439.06                | 2.34                    | -2.00                  | 1.22                  |
| 16,337.00             | 89.40           | 182.50      | 10,317.88             | -6,527.43    | 83.11        | 6,527.95                | 1.32                    | -1.24                  | 0.45                  |
| 16,426.00             | 88.10           | 181.30      | 10,319.82             | -6,616.35    | 80.16        | 6,616.83                | 1.99                    | -1.46                  | -1.35                 |
| 16,515.00             | 89.90           | 182.00      | 10,321.37             | -6,705.30    | 77.59        | 6,705.75                | 2.17                    | 2.02                   | 0.79                  |
| 16,605.00             | 90.40           | 182.80      | 10,321.14             | -6,795.22    | 73.82        | 6,795.62                | 1.05                    | 0.56                   | 0.89                  |
| 16,694.00             | 89.50           | 179.80      | 10,321.21             | -6,884.18    | 71.81        | 6,884.56                | 3.52                    | -1.01                  | -3.37                 |
| 16,783.00             | 89.20           | 179.10      | 10,322.22             | -6,973.17    | 72.66        | 6,973.55                | 0.86                    | -0.34                  | -0.79                 |
| 16,872.00             | 89.50           | 179.70      | 10,323.23             | -7,062.16    | 73.59        | 7,062.54                | 0.75                    | 0.34                   | 0.67                  |
| 16,962.00             | 89.49           | 180.68      | 10,324.03             | -7,152.16    | 73.29        | 7,152.53                | 1.09                    | -0.01                  | 1.09                  |
| 17,052.00             | 89.98           | 181.56      | 10,324.44             | -7,242.14    | 71.53        | 7,242.49                | 1.12                    | 0.54                   | 0.98                  |
| 17,141.00             | 89.10           | 179.98      | 10,325.16             | -7,331.12    | 70.34        | 7,331.45                | 2.03                    | -0.99                  | -1.78                 |
| 17,230.00             | 88.40           | 180.50      | 10,327.10             | -7,420.10    | 69.97        | 7,420.42                | 0.98                    | -0.79                  | 0.58                  |
| 17,319.00             | 88.62           | 180.94      | 10,329.41             | -7,509.06    | 68.85        | 7,509.37                | 0.55                    | 0.25                   | 0.49                  |
| 17,409.00             | 89.58           | 181.65      | 10,330.83             | -7,599.03    | 66.81        | 7,599.30                | 1.33                    | 1.07                   | 0.79                  |
| 17,498.00             | 89.10           | 181.82      | 10,331.85             | -7,687.98    | 64.12        | 7,688.22                | 0.57                    | -0.54                  | 0.19                  |
| 17,588.00             | 89.98           | 181.91      | 10,332.57             | -7,777.93    | 61.19        | 7,778.13                | 0.98                    | 0.98                   | 0.10                  |
| 17,677.00             | 89.41           | 180.86      | 10,333.05             | -7,866.90    | 59.04        | 7,867.07                | 1.34                    | -0.64                  | -1.18                 |
| 17,767.00             | 89.71           | 181.73      | 10,333.74             | -7,956.87    | 57.01        | 7,957.02                | 1.02                    | 0.33                   | 0.97                  |
| 17,856.00             | 88.48           | 180.50      | 10,335.14             | -8,045.84    | 55.27        | 8,045.96                | 1.95                    | -1.38                  | -1.38                 |
| 17,946.00             | 86.42           | 179.71      | 10,339.15             | -8,135.75    | 55.11        | 8,135.86                | 2.45                    | -2.29                  | -0.88                 |
| 18,035.00             | 85.49           | 179.89      | 10,345.43             | -8,224.52    | 55.42        | 8,224.64                | 1.06                    | -1.04                  | 0.20                  |
| 18,125.00             | 86.20           | 180.15      | 10,351.95             | -8,314.29    | 55.39        | 8,314.39                | 0.84                    | 0.79                   | 0.29                  |
| 18,214.00             | 89.41           | 179.54      | 10,355.36             | -8,403.21    | 55.63        | 8,403.31                | 3.67                    | 3.61                   | -0.69                 |
| 18,303.00             | 90.11           | 182.00      | 10,355.73             | -8,492.19    | 54.43        | 8,492.28                | 2.87                    | 0.79                   | 2.76                  |
| 18,392.00             | 90.20           | 182.61      | 10,355.49             | -8,581.12    | 50.85        | 8,581.16                | 0.69                    | 0.10                   | 0.69                  |
| 18,482.00             | 88.70           | 179.89      | 10,356.35             | -8,671.08    | 48.89        | 8,671.10                | 3.45                    | -1.67                  | -3.02                 |
| 18,571.00             | 88.22           | 178.04      | 10,358.74             | -8,760.03    | 50.50        | 8,760.06                | 2.15                    | -0.54                  | -2.08                 |
| 18,660.00             | 88.22           | 178.22      | 10,361.51             | -8,848.94    | 53.40        | 8,848.99                | 0.20                    | 0.00                   | 0.20                  |
| 18,749.00             | 90.99           | 180.33      | 10,362.12             | -8,937.92    | 54.52        | 8,937.98                | 3.91                    | 3.11                   | 2.37                  |
| 18,839.00             | 90.68           | 180.42      | 10,360.81             | -9,027.91    | 53.94        | 9,027.96                | 0.36                    | -0.34                  | 0.10                  |
| 18,928.00             | 90.81           | 178.13      | 10,359.65             | -9,116.89    | 55.06        | 9,116.94                | 2.58                    | 0.15                   | -2.57                 |
| 19,017.00             | 89.71           | 180.24      | 10,359.25             | -9,205.87    | 56.33        | 9,205.93                | 2.67                    | -1.24                  | 2.37                  |


**MS Directional**  
 Survey Report


|                  |                                  |                                     |                                    |
|------------------|----------------------------------|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Novo Oil & Gas, LLC              | <b>Local Co-ordinate Reference:</b> | Well Goonch Fed Com 0409 214H      |
| <b>Project:</b>  | Eddy County, New Mexico (NAD 83) | <b>TVD Reference:</b>               | WELL @ 3066.10usft (Precision 566) |
| <b>Site:</b>     | Goonch Fed Com 0409              | <b>MD Reference:</b>                | WELL @ 3066.10usft (Precision 566) |
| <b>Well:</b>     | Goonch Fed Com 0409 214H         | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                      | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Surveys                          | <b>Database:</b>                    | EDM 5000.15 Conroe Db              |

**Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 19,106.00             | 88.62           | 180.50      | 10,360.55             | -9,294.86    | 55.75        | 9,294.91                | 1.26                    | -1.22                  | 0.29                  |
| 19,196.00             | 88.79           | 178.31      | 10,362.58             | -9,384.82    | 56.69        | 9,384.88                | 2.44                    | 0.19                   | -2.43                 |
| 19,285.00             | 89.71           | 178.75      | 10,363.74             | -9,473.79    | 58.97        | 9,473.86                | 1.15                    | 1.03                   | 0.49                  |
| 19,374.00             | 94.68           | 181.82      | 10,360.34             | -9,562.68    | 58.53        | 9,562.75                | 6.56                    | 5.58                   | 3.45                  |
| 19,463.00             | 91.52           | 180.42      | 10,355.52             | -9,651.52    | 56.80        | 9,651.56                | 3.88                    | -3.55                  | -1.57                 |
| 19,553.00             | 89.89           | 178.66      | 10,354.42             | -9,741.50    | 57.52        | 9,741.55                | 2.67                    | -1.81                  | -1.96                 |
| 19,642.00             | 90.29           | 179.80      | 10,354.28             | -9,830.50    | 58.72        | 9,830.55                | 1.36                    | 0.45                   | 1.28                  |
| 19,732.00             | 90.20           | 179.98      | 10,353.89             | -9,920.49    | 58.89        | 9,920.54                | 0.22                    | -0.10                  | 0.20                  |
| 19,821.00             | 90.51           | 179.36      | 10,353.34             | -10,009.49   | 59.40        | 10,009.54               | 0.78                    | 0.35                   | -0.70                 |
| 19,911.00             | 89.41           | 179.63      | 10,353.40             | -10,099.49   | 60.19        | 10,099.54               | 1.26                    | -1.22                  | 0.30                  |
| 20,000.00             | 90.99           | 181.38      | 10,353.09             | -10,188.48   | 59.41        | 10,188.51               | 2.65                    | 1.78                   | 1.97                  |
| 20,090.00             | 90.51           | 180.86      | 10,351.91             | -10,278.45   | 57.65        | 10,278.46               | 0.79                    | -0.53                  | -0.58                 |
| 20,179.00             | 89.98           | 180.33      | 10,351.53             | -10,367.44   | 56.73        | 10,367.44               | 0.84                    | -0.60                  | -0.60                 |
| 20,268.00             | 90.51           | 181.73      | 10,351.15             | -10,456.43   | 55.13        | 10,456.40               | 1.68                    | 0.60                   | 1.57                  |
| 20,357.00             | 90.99           | 181.82      | 10,349.99             | -10,545.38   | 52.37        | 10,545.31               | 0.55                    | 0.54                   | 0.10                  |
| 20,447.00             | 90.42           | 181.56      | 10,348.88             | -10,635.33   | 49.72        | 10,635.23               | 0.70                    | -0.63                  | -0.29                 |
| 20,536.00             | 89.41           | 180.68      | 10,349.01             | -10,724.31   | 47.98        | 10,724.19               | 1.51                    | -1.13                  | -0.99                 |
| 20,625.00             | 89.58           | 181.12      | 10,349.80             | -10,813.29   | 46.58        | 10,813.15               | 0.53                    | 0.19                   | 0.49                  |
| 20,714.00             | 88.62           | 180.33      | 10,351.20             | -10,902.28   | 45.45        | 10,902.12               | 1.40                    | -1.08                  | -0.89                 |
| 20,767.00             | 89.58           | 180.24      | 10,352.03             | -10,955.27   | 45.19        | 10,955.10               | 1.82                    | 1.81                   | -0.17                 |
| 20,820.00             | 89.58           | 180.24      | 10,352.42             | -11,008.27   | 44.97        | 11,008.09               | 0.00                    | 0.00                   | 0.00                  |

Projection to TD-20820.00' MD

**Design Targets**

| Target Name                          | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude  | Longitude   |
|--------------------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------|-------------|
| - hit/miss target                    |               |              |            |              |              |                 |                |           |             |
| - Shape                              |               |              |            |              |              |                 |                |           |             |
| KOP Actual - Goonch                  | 0.00          | 0.00         | 9,769.61   | -375.82      | 77.45        | 488,307.27      | 617,963.05     | 32.342184 | -104.085219 |
| - actual wellpath hits target center |               |              |            |              |              |                 |                |           |             |
| - Point                              |               |              |            |              |              |                 |                |           |             |
| LTP Actual - Goonch f                | 0.00          | 0.00         | 10,349.69  | -10,799.36   | 46.84        | 477,883.73      | 617,932.44     | 32.313532 | -104.085397 |
| - actual wellpath hits target center |               |              |            |              |              |                 |                |           |             |
| - Point                              |               |              |            |              |              |                 |                |           |             |
| FTP Actual - Goonch l                | 0.00          | 0.00         | 10,366.74  | -804.83      | 84.83        | 487,878.26      | 617,970.43     | 32.341005 | -104.085199 |
| - actual wellpath hits target center |               |              |            |              |              |                 |                |           |             |
| - Point                              |               |              |            |              |              |                 |                |           |             |

**Design Annotations**

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | Comment                       |
|-----------------------|-----------------------|-------------------|-------------------------------|
| +N/-S (usft)          | +E/-W (usft)          |                   |                               |
| 20,820.00             | 10,352.42             | -11,008.27        | 44.97                         |
|                       |                       |                   | Projection to TD-20820.00' MD |



**MS Directional**  
Survey Report

|                  |                                  |                                     |                                    |
|------------------|----------------------------------|-------------------------------------|------------------------------------|
| <b>Company:</b>  | Novo Oil & Gas, LLC              | <b>Local Co-ordinate Reference:</b> | Well Goonch Fed Com 0409 214H      |
| <b>Project:</b>  | Eddy County, New Mexico (NAD 83) | <b>TVD Reference:</b>               | WELL @ 3066.10usft (Precision 566) |
| <b>Site:</b>     | Goonch Fed Com 0409              | <b>MD Reference:</b>                | WELL @ 3066.10usft (Precision 566) |
| <b>Well:</b>     | Goonch Fed Com 0409 214H         | <b>North Reference:</b>             | Grid                               |
| <b>Wellbore:</b> | Wellbore #1                      | <b>Survey Calculation Method:</b>   | Minimum Curvature                  |
| <b>Design:</b>   | Surveys                          | <b>Database:</b>                    | EDM 5000.15 Conroe Db              |

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**

CONDITIONS  
  
Action 11648

CONDITIONS OF APPROVAL

|                                                                                 |                                                                                                                                                                                                                                                                  |                         |                  |                         |                        |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------|-------------------------|------------------------|
| Operator:<br>NOVO OIL & GAS NORTHERN DELAWA<br>Suite 206 Oklahoma City, OK73116 |                                                                                                                                                                                                                                                                  | 1001 West Wilshire Blvd | OGRID:<br>372920 | Action Number:<br>11648 | Action Type:<br>C-104C |
| OCD<br>Reviewer                                                                 | Condition                                                                                                                                                                                                                                                        |                         |                  |                         |                        |
| abustamante                                                                     | NMOCD COA: NMAC Rule, 19.15.16.10. J 2-5. Operator, submit a 3160-5 sundry notice every six months beginning approval of this C-104NW. Updated details regarding the tubingless completion, list current pressure until deemed safe for the tubing installation. |                         |                  |                         |                        |