

Released to Imaging: 1/14/2022 3:05:09 PM

Received by OCD: 12/13/2021 12:50:14 PM

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

State of New Mexico  
Energy, Minerals & Natural Resources

Form C-104  
Revised August 1, 2011

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>Advance Energy Partners Hat Mesa, LLC<br>11490 Westheimer RD, Suite 950<br>Houston, TX |                                                             | <sup>2</sup> OGRID Number<br>372417                       |
|                                                                                                                                  |                                                             | <sup>3</sup> Reason for Filing Code/ Effective Date<br>NW |
| <sup>4</sup> API Number<br>30 - 025-46695                                                                                        | <sup>5</sup> Pool Name<br>WC-025-G-06 S213326D; BONE SPRING | <sup>6</sup> Pool Code<br>97929                           |
| <sup>7</sup> Property Code<br>319603                                                                                             | <sup>8</sup> Property Name<br>Merchant State Unit           | <sup>9</sup> Well Number<br>301 H                         |

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 |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| D             | 35      | 21S      | 33E   |         | 200           | NORTH            | 910           | WEST           | Lea    |

<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 |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| M             | 2       | 22 S     | 33 E  |         | 25            | SOUTH            | 975           | WEST           | Lea    |

|                             |                                          |                                   |                                   |                                    |                                     |
|-----------------------------|------------------------------------------|-----------------------------------|-----------------------------------|------------------------------------|-------------------------------------|
| <sup>12</sup> Lse Code<br>S | <sup>13</sup> Producing Method Code<br>F | <sup>14</sup> Gas Connection Date | <sup>15</sup> C-129 Permit Number | <sup>16</sup> C-129 Effective Date | <sup>17</sup> C-129 Expiration Date |
|-----------------------------|------------------------------------------|-----------------------------------|-----------------------------------|------------------------------------|-------------------------------------|

III. Oil and Gas Transporters

| <sup>18</sup> Transporter OGRID | <sup>19</sup> Transporter Name and Address                                     | <sup>20</sup> O/G/W |
|---------------------------------|--------------------------------------------------------------------------------|---------------------|
| 214984                          | Plains Marketing, L.P.<br>10 Desta Drive, Suite 200E<br>Midland, TX 79705      | O                   |
| 018180                          | Versado Gas Processors, LLC<br>1000 Louisiana, Suite 4300<br>Houston, TX 77022 | G                   |
|                                 |                                                                                |                     |
|                                 |                                                                                |                     |
|                                 |                                                                                |                     |
|                                 |                                                                                |                     |

IV. Well Completion Data

|                                     |                                        |                            |                              |                                             |                       |
|-------------------------------------|----------------------------------------|----------------------------|------------------------------|---------------------------------------------|-----------------------|
| <sup>21</sup> Spud Date<br>01/13/20 | <sup>22</sup> Ready Date<br>01/16/2021 | <sup>23</sup> TD<br>20,306 | <sup>24</sup> PBDT<br>20,232 | <sup>25</sup> Perforations<br>10,445-20,203 | <sup>26</sup> DHC, MC |
| <sup>27</sup> Hole Size             | <sup>28</sup> Casing & Tubing Size     | <sup>29</sup> Depth Set    | <sup>30</sup> Sacks Cement   |                                             |                       |
| 17.5"                               | 13.375"                                | 1706                       | 820                          |                                             |                       |
| 12.25"                              | 9.625"                                 | 5348/3852                  | 1330                         |                                             |                       |
| 8.5"                                | 5.5"                                   | 20,306                     | 2935                         |                                             |                       |
|                                     |                                        |                            |                              |                                             |                       |

V. Well Test Data

|                                          |                                               |                                       |                                     |                                     |                                      |
|------------------------------------------|-----------------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|
| <sup>31</sup> Date New Oil<br>01/16/2021 | <sup>32</sup> Gas Delivery Date<br>01/16/2021 | <sup>33</sup> Test Date<br>02/01/2021 | <sup>34</sup> Test Length<br>24 Hrs | <sup>35</sup> Tbg. Pressure<br>1000 | <sup>36</sup> Csg. Pressure<br>772   |
| <sup>37</sup> Choke Size<br>64           | <sup>38</sup> Oil<br>716                      | <sup>39</sup> Water<br>4089           | <sup>40</sup> Gas<br>854            |                                     | <sup>41</sup> Test Method<br>Flowing |

<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.

Signature: *Debbie Moughon*  
Printed name: Debbie Moughon

Title: Eng. Tech.  
E-mail Address: dmoughon@advanceenergypartners.com

|                                       |  |
|---------------------------------------|--|
| OIL CONSERVATION DIVISION             |  |
| Approved by: <i>PATRICIA MARTINEZ</i> |  |
| Title: <i>PETROLEUM SPECIALIST</i>    |  |
| Approval Date: <i>1/14/2022</i>       |  |

|       |          |        |              |
|-------|----------|--------|--------------|
| Date: | 03/16/21 | Phone: | 713-447-0744 |
|-------|----------|--------|--------------|

## DISTRICT I

1825 N. French Dr., Hobbs, NM 88240  
Phone (505) 393-5151 Fax: (505) 393-0720

## DISTRICT II

811 S. First St., Artesia, NM 88210  
Phone (505) 748-1283 Fax: (505) 748-9720

## DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone (505) 334-5178 Fax: (505) 334-5170

## DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone (505) 476-3450 Fax: (505) 476-3452State of New Mexico  
Energy, Minerals and Natural Resources Department

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Form C-102

Revised August 4, 2011

Submit one copy to appropriate  
District Office

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☒ AMENDED REPORT  
As-Drilled

|                            |                                                   |                                                |
|----------------------------|---------------------------------------------------|------------------------------------------------|
| API Number<br>30-025-46695 | Pool Code<br>97929                                | Pool Name<br>WC-025-G-06 S213326D; BONE SPRING |
| Property Code<br>319603    | Property Name<br>MERCHANT STATE UNIT              | Well Number<br>301H                            |
| OGRID No.<br>372417        | Operator Name<br>ADVANCE ENERGY PARTNERS HAT MESA | Elevation<br>3685'                             |

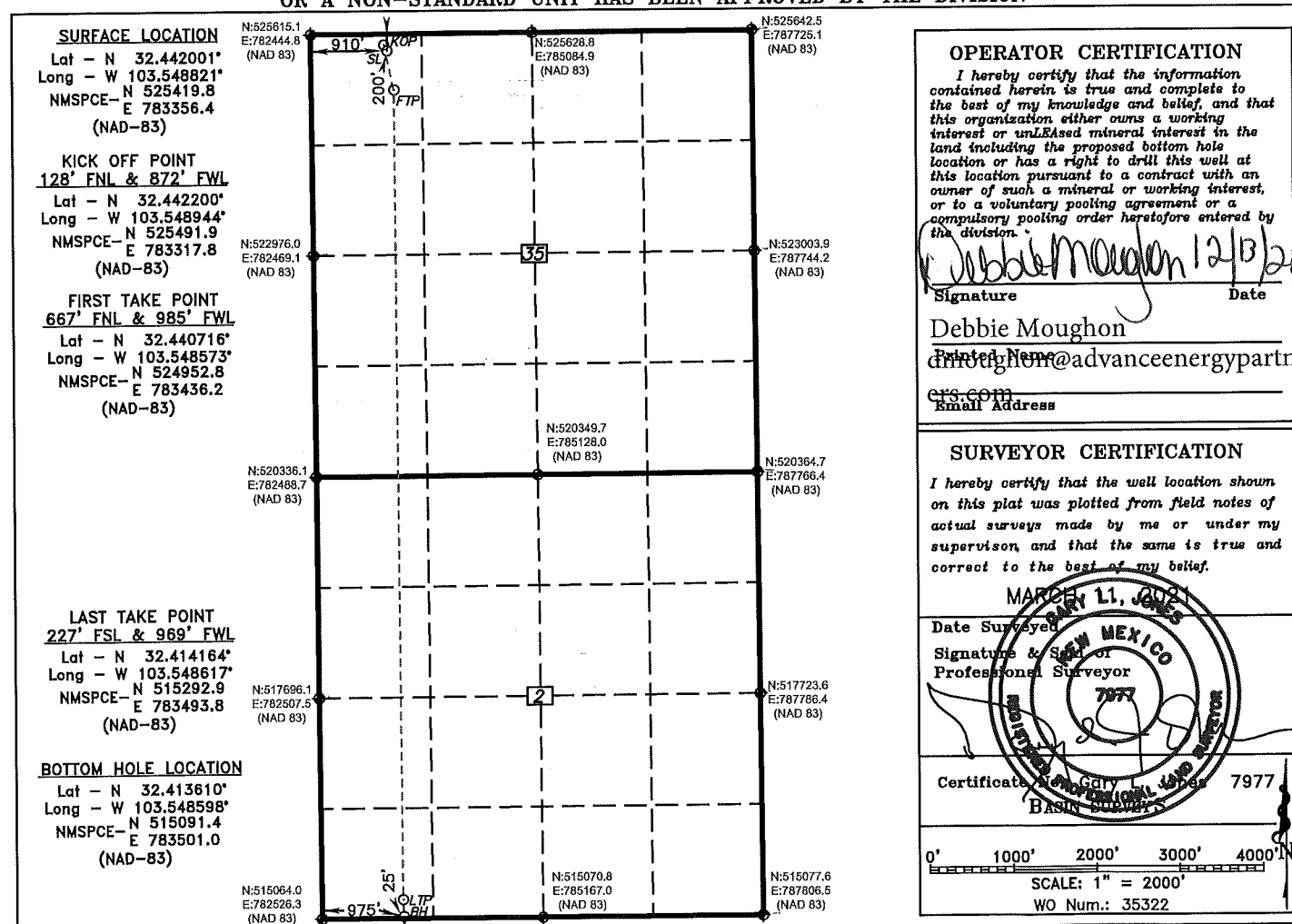
## Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | SOUTH/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| D             | 35      | 21 S     | 33 E  |         | 200           | NORTH            | 910           | WEST           | LEA    |

## Bottom Hole Location If Different From Surface

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | SOUTH/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| M             | 2       | 22 S     | 33 E  |         | 25            | SOUTH            | 975           | WEST           | LEA    |

|                           |                        |                    |           |
|---------------------------|------------------------|--------------------|-----------|
| Dedicated Acres<br>320.04 | Joint or Infill<br>240 | Consolidation Code | 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



## End of Well Report

# Advance Energy Partners, LLC Merchant State Unit, Well No. 301H Lea County, New Mexico

**Rig: H&P #389**

**Job No.: WT-20-001**

Start Date: 01/13/2020

End Date: 02/11/2020

Directional Drillers:

**Joel Johnson**

Office Support:

**Javier Alvarez**

Directional Coordinator

E-mail: [Javier.Alvarez@aimdir.com](mailto:Javier.Alvarez@aimdir.com)

**Ivonne Gonzalez**

Well Planner

E-mail: [Ivonne.Gonzalez@aimdir.com](mailto:Ivonne.Gonzalez@aimdir.com)

**Allison Reinert**

Executive VP

E-mail: [Allison.Reinert@aimdir.com](mailto:Allison.Reinert@aimdir.com)

**Thomas Rinald**

President

E-mail: [Thomas.Rinald@aimdir.com](mailto:Thomas.Rinald@aimdir.com)

P.O. Box 181015 • Corpus Christi, Texas 78480

Phone: 361-653-6500 • Fax: 361-653-6599

[www.aimdir.com](http://www.aimdir.com)





# Performance Overview

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## Merchant State Unit 301H (WT-20-001)

2020-01-13 to 2020-02-11

Lea, New Mexico, US (32.44, -103.55)

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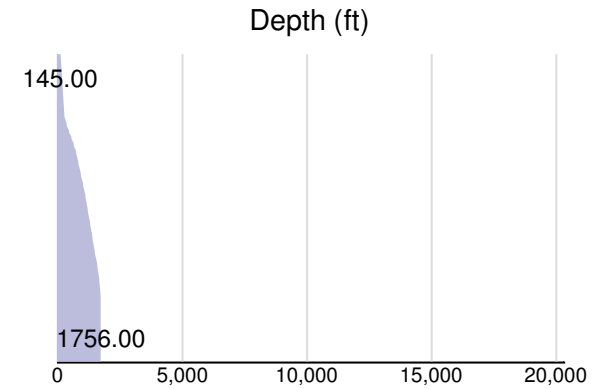
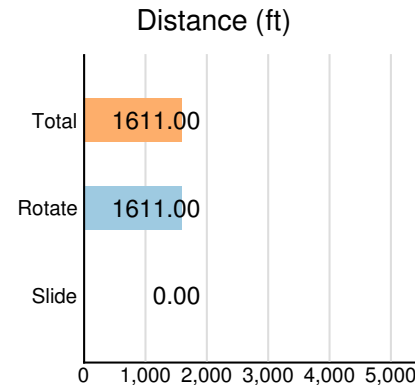
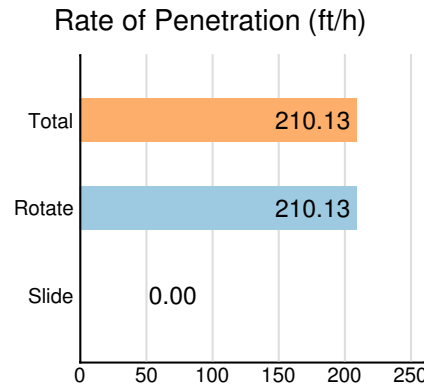
# BHA Performance

## BHA 1

17.5" SURFACE

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Out: 01/13/2020 19:00

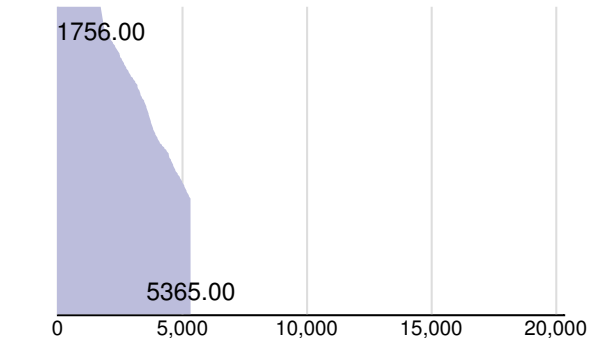
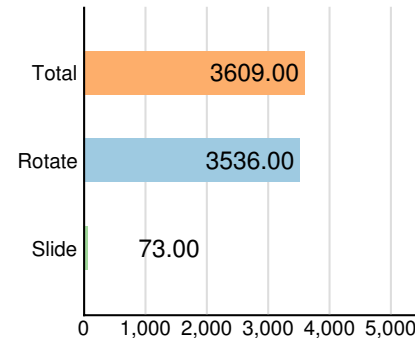
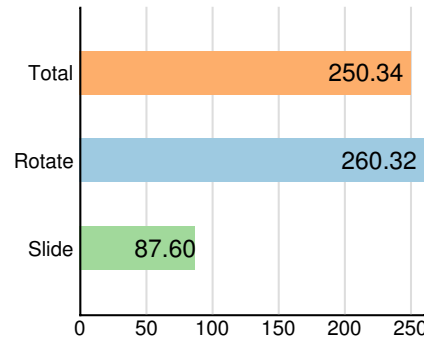


## BHA 2

Intermediate 12.25"

In: 01/19/2020 00:30

Out: 01/20/2020 06:00

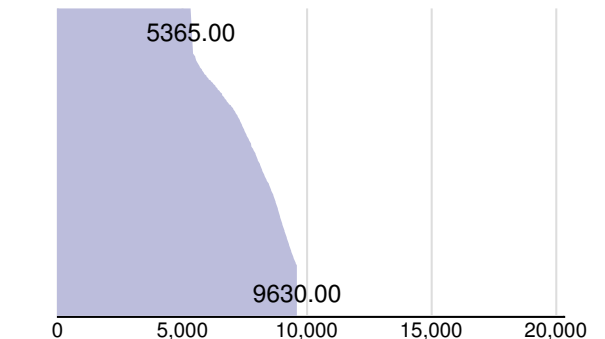
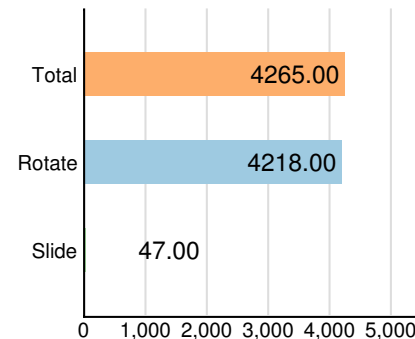
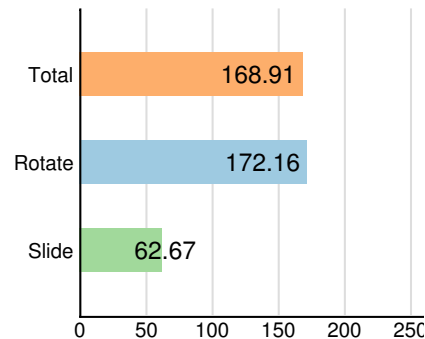


## BHA 3

BHA #3 (8.5"  
Intermediate)

In: 01/28/2020 08:00

Out: 01/30/2020 01:30

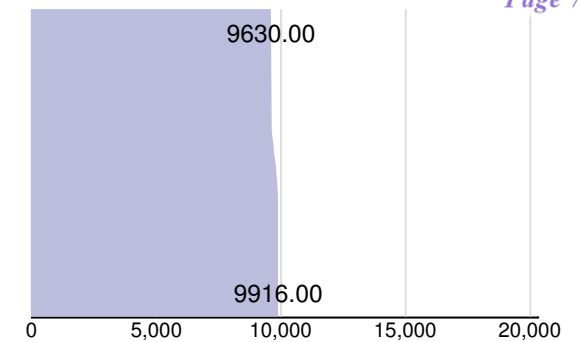
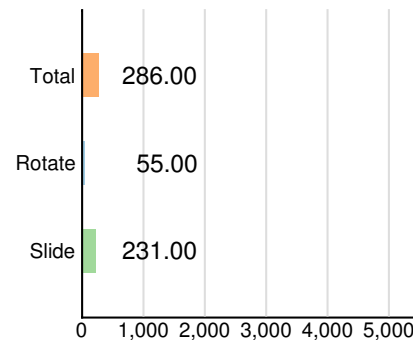
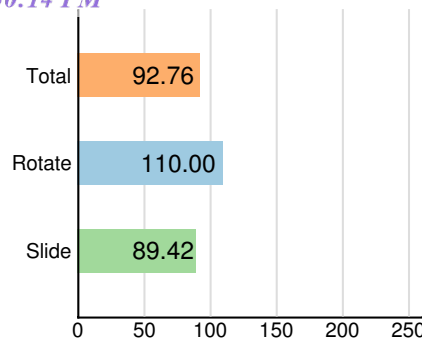


## BHA 4

BHA #4 (Curve Assembly)

In: 01/30/2020 01:30

Out: 01/30/2020 14:45

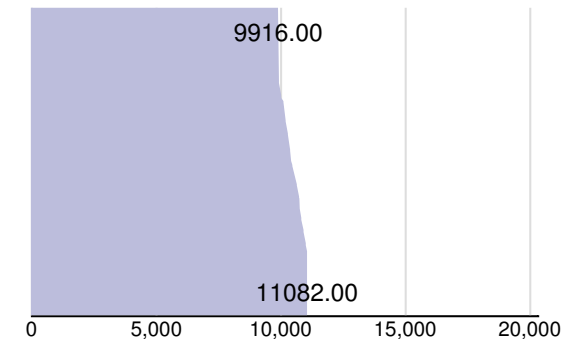
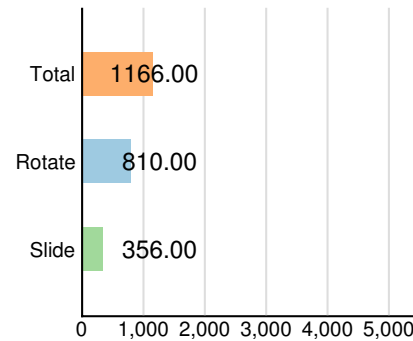
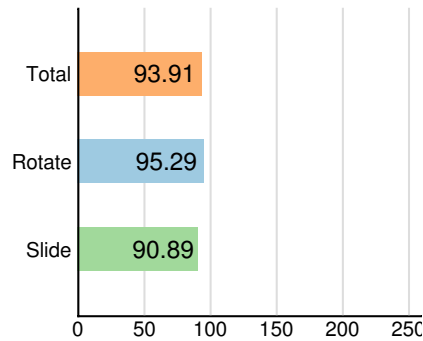


## BHA 5

BHA #5 (Curve Assembly)

In: 01/30/2020 14:45

Out: 01/31/2020 16:00

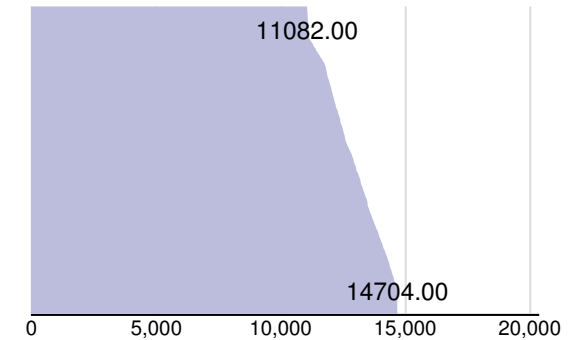
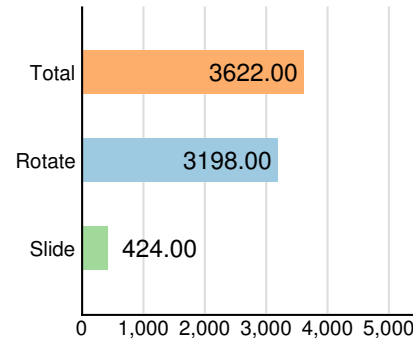
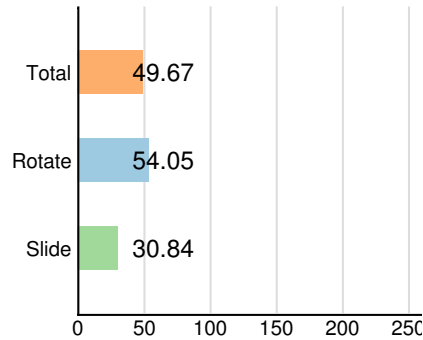


## BHA 6

BHA #6 (Lateral Assembly)

In: 01/31/2020 16:00

Out: 02/04/2020 17:30

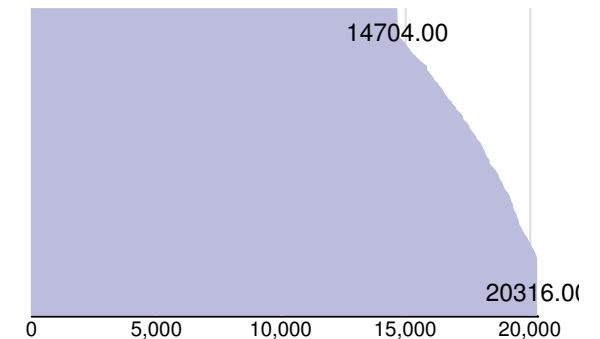
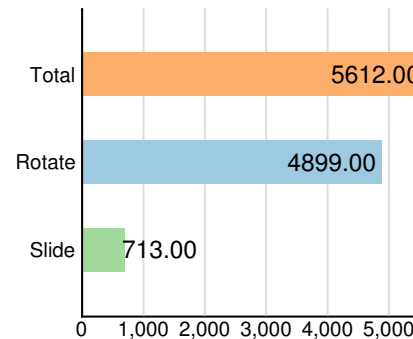
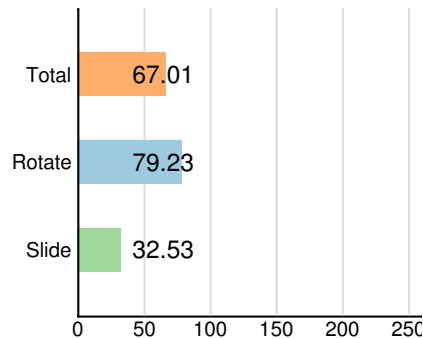


## BHA 7

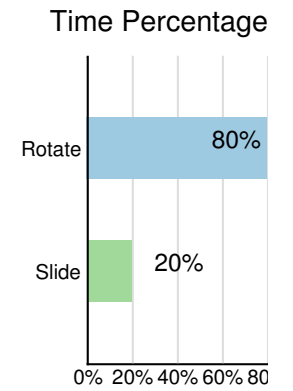
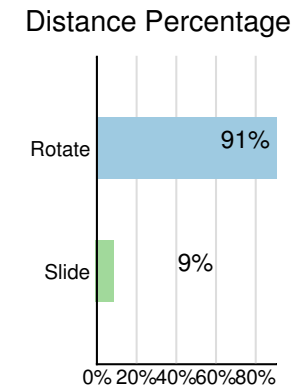
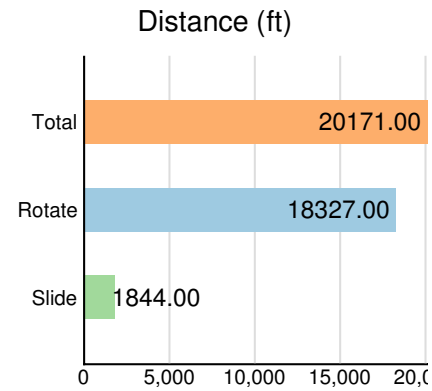
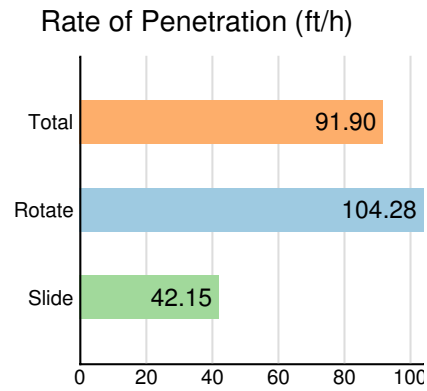
BHA #7 (Lateral Assembly)

In: 02/04/2020 20:30

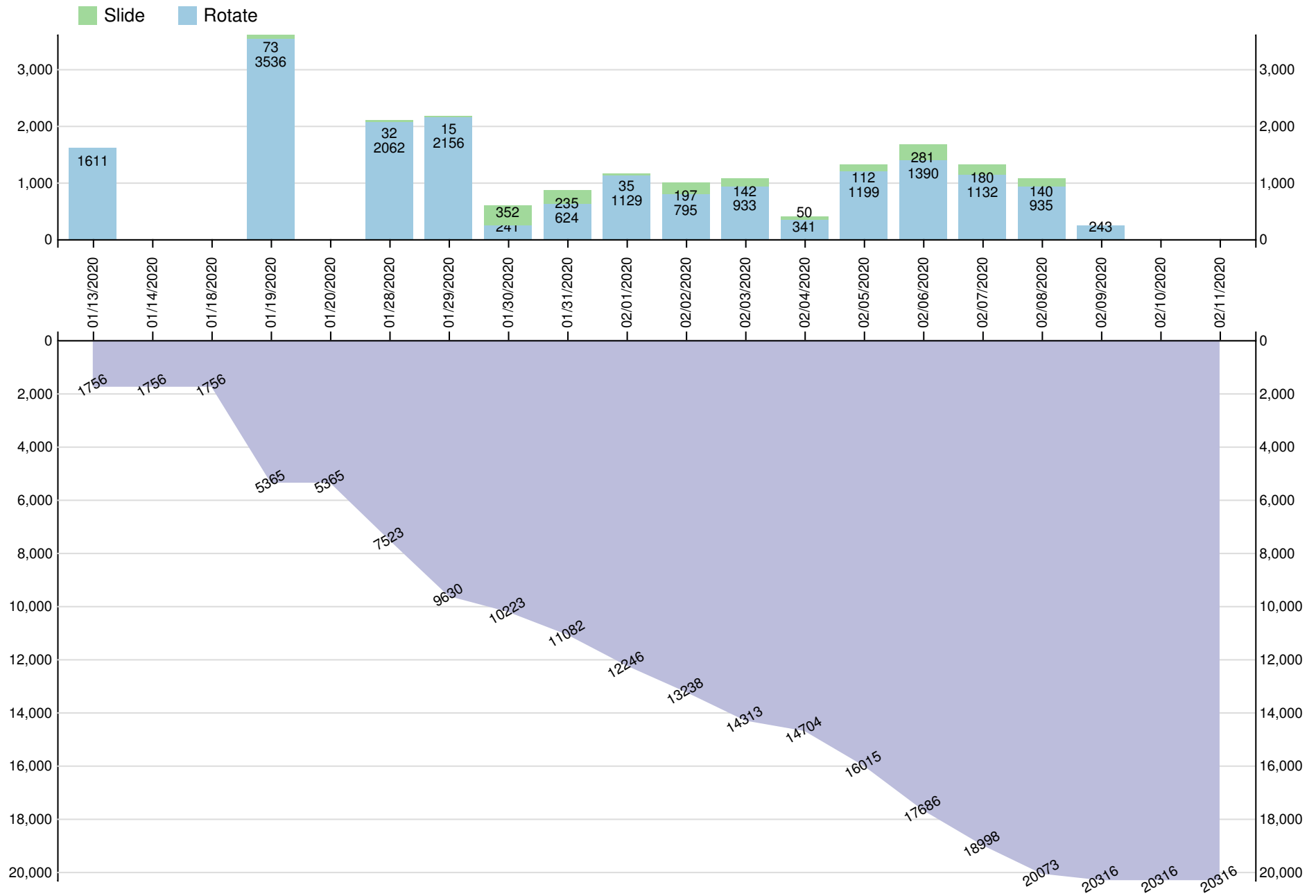
Out: 02/10/2020 05:45



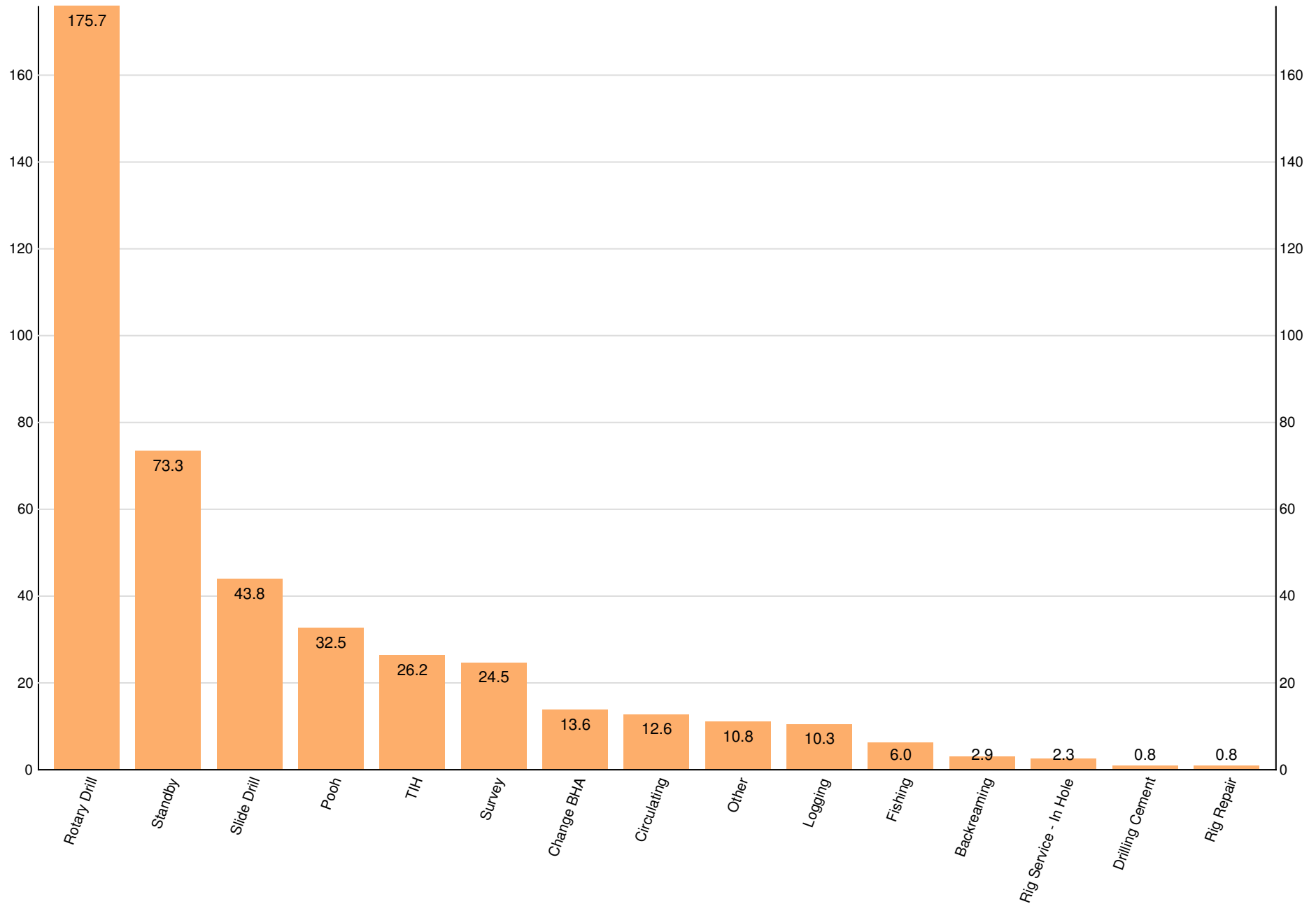
Total



# Days vs. Depth



# Directional Activity Hours





# Proposed vs. As Drilled

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## Merchant State Unit 301H (WT-20-001)

2020-01-13 to 2020-02-11

Lea, New Mexico, US (32.44, -103.55)

---

# Advance Energy Partners, LLC

Merchant State Unit 301H  
Lea County, New Mexico  
Job No. WT-20-001  
H&P 389  
Plan 1.0



Received by Imaging: 1/14/2022 3:05:09 PM

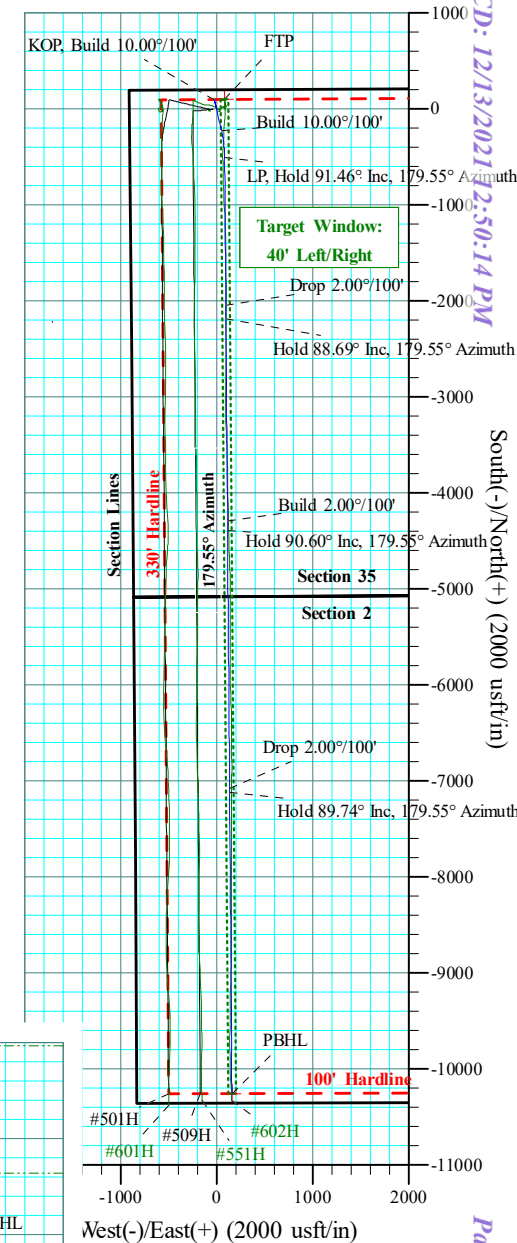
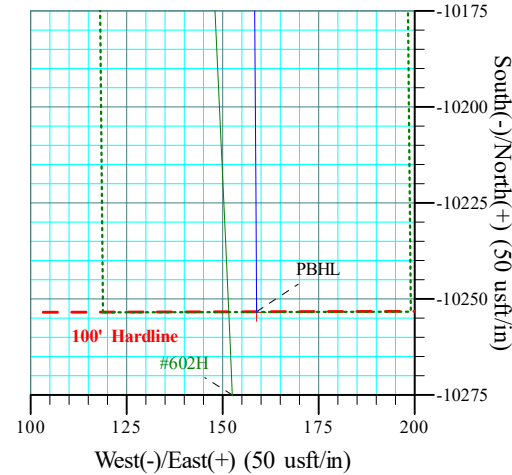


Azimuths to Grid North  
True North: -0.42°  
Magnetic North: 6.15°

Magnetic Field  
Strength: 48030.1nT  
Dip Angle: 60.19°  
Date: 1/15/2020  
Model: MVHD

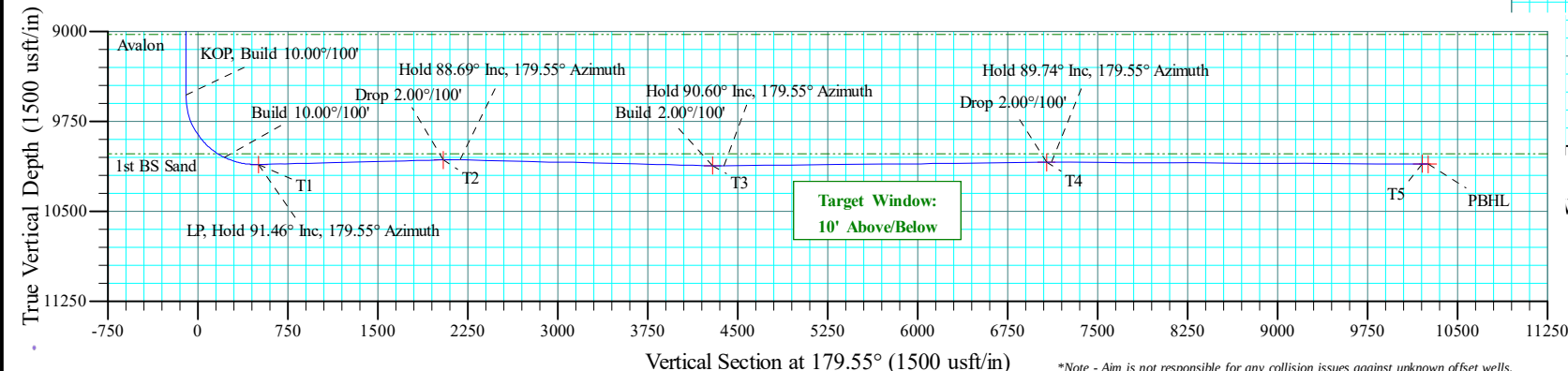
Magnetic North: 6.15° to Grid North

| SITE DETAILS: Merchant State Unit 301H  |                                         |
|-----------------------------------------|-----------------------------------------|
| Site Centre Northing:                   | 525419.80                               |
| Easting:                                | 783356.40                               |
| Positional Uncertainty:                 | 0.00                                    |
| Convergence:                            | 0.42                                    |
| Local North:                            | Grid                                    |
| PROJECT DETAILS: Lea County, New Mexico |                                         |
| Geodetic System:                        | US State Plane 1983                     |
| Datum:                                  | North American Datum 1983               |
| Ellipsoid:                              | GRS 1980                                |
| Zone:                                   | New Mexico Eastern Zone                 |
| System Datum:                           | Mean Sea Level                          |
| Depth Reference:                        | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |



| SECTION DETAILS |          |       |        |          |           |        |       |        |          |                                      |
|-----------------|----------|-------|--------|----------|-----------|--------|-------|--------|----------|--------------------------------------|
| Sec             | MD       | Inc   | Azi    | TVD      | +N/-S     | +E/-W  | Dleg  | TFace  | VSec     | Annotation                           |
| 1               | 0.00     | 0.00  | 0.00   | 0.00     | 0.00      | 0.00   | 0.00  | 0.00   | 0.00     |                                      |
| 2               | 5400.00  | 0.00  | 0.00   | 5400.00  | 0.00      | 0.00   | 0.00  | 0.00   | 0.00     | Build 1.00°/100'                     |
| 3               | 5900.00  | 5.00  | 345.94 | 5899.37  | 21.15     | -5.30  | 1.00  | 345.94 | -21.19   | Hold 5.00° Inc, 345.94° Azimuth      |
| 4               | 6580.14  | 5.00  | 345.94 | 6576.92  | 78.65     | -19.70 | 0.00  | 0.00   | -78.80   | Drop 1.00°/100'                      |
| 5               | 7080.14  | 0.00  | 0.00   | 7076.28  | 99.80     | -25.00 | 1.00  | 180.00 | -99.99   | Hold Vertical                        |
| 6               | 9537.23  | 0.00  | 0.00   | 9533.37  | 99.80     | -25.00 | 0.00  | 0.00   | -99.99   | KOP, Build 10.00°/100'               |
| 7               | 10187.23 | 65.00 | 166.82 | 10052.65 | -222.30   | 50.42  | 10.00 | 166.82 | 222.69   | Build 10.00°/100'                    |
| 8               | 10479.17 | 91.46 | 179.55 | 10111.90 | -503.14   | 82.42  | 10.00 | 26.84  | 503.77   | LP, Hold 91.46° Inc, 179.55° Azimuth |
| 9               | 12019.90 | 91.46 | 179.55 | 10072.59 | -2043.32  | 94.52  | 0.00  | 0.00   | 2044.00  | Drop 2.00°/100'                      |
| 10              | 12158.70 | 88.69 | 179.55 | 10072.41 | -2182.10  | 95.61  | 2.00  | 180.00 | 2182.79  | Hold 88.69° Inc, 179.55° Azimuth     |
| 11              | 14267.47 | 88.69 | 179.55 | 10120.77 | -4290.25  | 112.17 | 0.00  | 0.00   | 4291.00  | Build 2.00°/100'                     |
| 12              | 14363.40 | 90.60 | 179.55 | 10121.36 | -4386.17  | 112.92 | 2.00  | 0.00   | 4386.92  | Hold 90.60° Inc, 179.55° Azimuth     |
| 13              | 17050.63 | 90.60 | 179.55 | 10093.01 | -7073.17  | 134.02 | 0.00  | 0.00   | 7074.00  | Drop 2.00°/100'                      |
| 14              | 17093.91 | 89.74 | 179.55 | 10092.88 | -7116.45  | 134.36 | 2.00  | 180.00 | 7117.28  | Hold 89.74° Inc, 179.55° Azimuth     |
| 15              | 20230.89 | 89.74 | 179.55 | 10107.18 | -10253.30 | 159.00 | 0.00  | 0.00   | 10254.23 | PBHL                                 |

| DESIGN TARGET DETAILS  |          |           |        |           |           |                  |                   |
|------------------------|----------|-----------|--------|-----------|-----------|------------------|-------------------|
| Name                   | TVD      | +N/-S     | +E/-W  | Northing  | Easting   | Latitude         | Longitude         |
| FTP (Merchant301H)     | 0.00     | 100.40    | 79.10  | 525520.20 | 783435.50 | 32° 26' 32.191 N | 103° 32' 54.823 W |
| PBHL r1 (Merchant301H) | 10107.18 | -10253.30 | 159.00 | 515166.50 | 783515.40 | 32° 24' 49.737 N | 103° 32' 54.778 W |

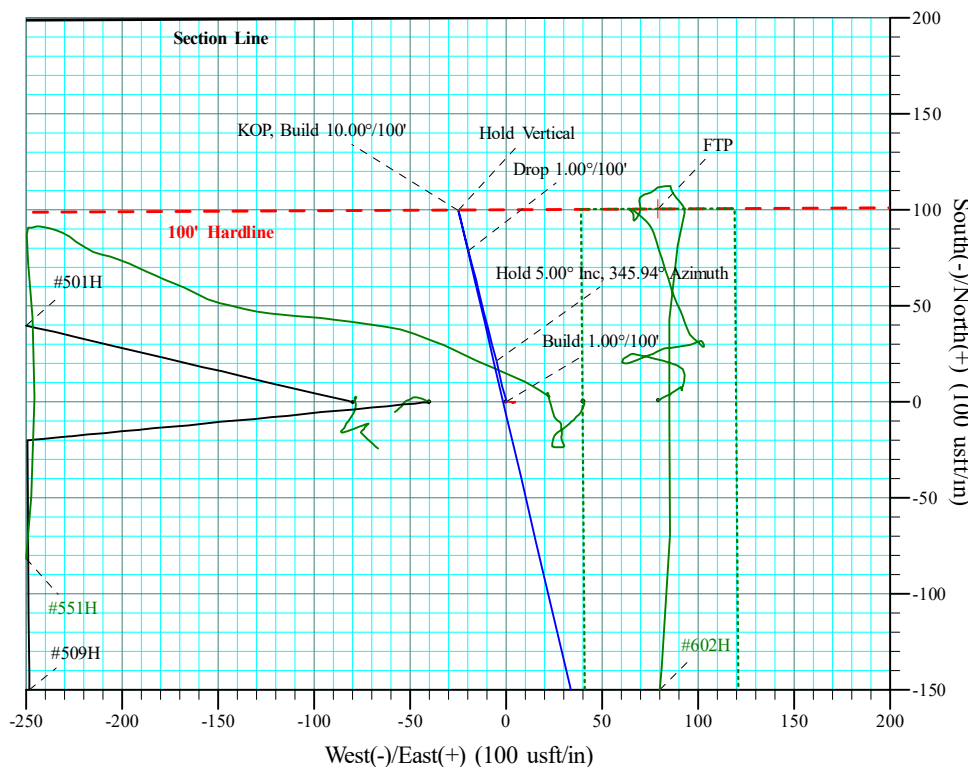
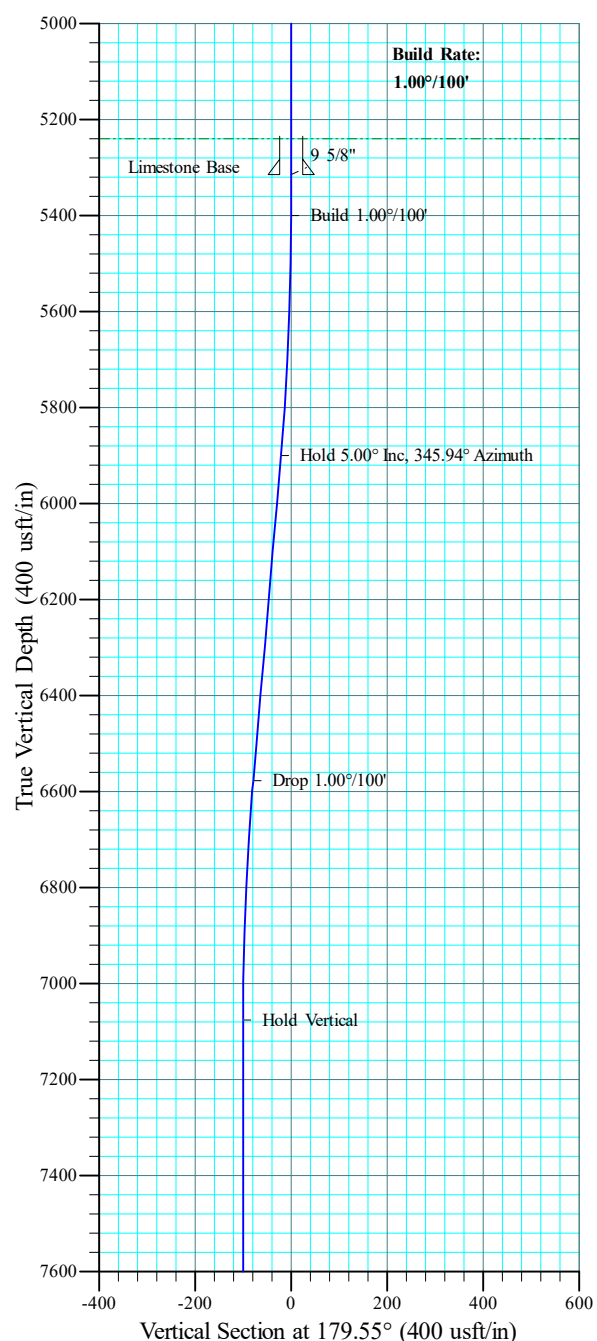


\*Note - Aim is not responsible for any collision issues against unknown offset wells.

File: Advance Energy - Merchant State Unit 301H Plan 1.0.wpc



Merchant State Unit 301H  
Lea County, New Mexico  
Job No. WT-20-001  
H&P 389  
Plan 1.0



Azimuths to Grid North  
True North: -0.42°  
Magnetic North: 6.15°  
  
Magnetic Field  
Strength: 48030.1nT  
Dip Angle: 60.19°  
Date: 1/15/2020  
Model: MVHD

Magnetic North: 6.15° to Grid North

#### SITE DETAILS: Merchant State Unit 301H

Site Centre Northing: 525419.80  
Easting: 783356.40

Positional Uncertainty: 0.00  
Convergence: 0.42  
Local North: Grid

Depth Reference:  
3685'GL+25.5'KB @ 3710.50usft (H&P 389)

#### SLOTS

| Slot Name | +N/-S | +E/-W   |
|-----------|-------|---------|
| 301H      | 0.00  | 0.00    |
| 501H      | -0.40 | -79.80  |
| 509H      | -0.20 | -40.00  |
| 551H      | 0.20  | 40.20   |
| 601H      | 17.10 | -579.70 |
| 602H      | 0.50  | 79.30   |

#### CASING DETAILS

| MD      | Name    |
|---------|---------|
| 1750.00 | 13 3/8" |
| 5315.00 | 9 5/8"  |

#### PROJECT DETAILS: Lea County, New Mexico

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

System Datum: Mean Sea Level

\*Note - Aim is not responsible for collision issues against any unknown offset wells.

#### DESIGN TARGET DETAILS

| Name                   | TVD      | +N/-S     | +E/-W  | Northing  | Easting   | Latitude         | Longitude         |
|------------------------|----------|-----------|--------|-----------|-----------|------------------|-------------------|
| FTP (Merchant301H)     | 0.00     | 100.40    | 79.10  | 525520.20 | 783435.50 | 32° 26' 32.191 N | 103° 32' 54.823 W |
| PBHL r1 (Merchant301H) | 10107.18 | -10253.30 | 159.00 | 515166.50 | 783515.40 | 32° 24' 49.737 N | 103° 32' 54.778 W |

Drawn By: IG

Date Created: 1/2/2020

Date Revised: 1/15/2020

File: Advance Energy - Merchant State Unit 301H Plan 1.0 Surface.wpe

#### SECTION DETAILS

| Sec | MD       | Inc   | Azi    | TVD      | +N/-S     | +E/-W  | Dleg  | TFace  | Vsect    | Annotation                           |
|-----|----------|-------|--------|----------|-----------|--------|-------|--------|----------|--------------------------------------|
| 1   | 0.00     | 0.00  | 0.00   | 0.00     | 0.00      | 0.00   | 0.00  | 0.00   | 0.00     |                                      |
| 2   | 5400.00  | 0.00  | 0.00   | 5400.00  | 0.00      | 0.00   | 0.00  | 0.00   | 0.00     | Build 1.00°/100'                     |
| 3   | 5900.00  | 5.00  | 345.94 | 5899.37  | 21.15     | -5.30  | 1.00  | 345.94 | -21.19   | Hold 5.00° Inc, 345.94° Azimuth      |
| 4   | 6580.14  | 5.00  | 345.94 | 6576.92  | 78.65     | -19.70 | 0.00  | 0.00   | -78.80   | Drop 1.00°/100'                      |
| 5   | 7080.14  | 0.00  | 0.00   | 7076.28  | 99.80     | -25.00 | 1.00  | 180.00 | -99.99   | Hold Vertical                        |
| 6   | 9537.23  | 0.00  | 0.00   | 9533.37  | 99.80     | -25.00 | 0.00  | 0.00   | -99.99   | KOP, Build 10.00°/100'               |
| 7   | 10187.23 | 65.00 | 166.82 | 10052.65 | -222.30   | 50.42  | 10.00 | 166.82 | 222.69   | Build 10.00°/100'                    |
| 8   | 10479.17 | 91.46 | 179.55 | 10111.90 | -503.14   | 82.42  | 10.00 | 26.84  | 503.77   | LP, Hold 91.46° Inc, 179.55° Azimuth |
| 9   | 12019.90 | 91.46 | 179.55 | 10072.59 | -2043.32  | 94.52  | 0.00  | 0.00   | 2044.00  | Drop 2.00°/100'                      |
| 10  | 12158.70 | 88.69 | 179.55 | 10072.41 | -2182.10  | 95.61  | 2.00  | 180.00 | 2182.79  | Hold 88.69° Inc, 179.55° Azimuth     |
| 11  | 14267.47 | 88.69 | 179.55 | 10120.77 | -4290.25  | 112.17 | 0.00  | 0.00   | 4291.00  | Build 2.00°/100'                     |
| 12  | 14363.40 | 90.60 | 179.55 | 10121.36 | -4386.17  | 112.92 | 2.00  | 0.00   | 4386.92  | Hold 90.60° Inc, 179.55° Azimuth     |
| 13  | 17050.63 | 90.60 | 179.55 | 10093.01 | -7073.17  | 134.02 | 0.00  | 0.00   | 7074.00  | Drop 2.00°/100'                      |
| 14  | 20230.89 | 89.74 | 179.55 | 10107.18 | -10253.30 | 159.00 | 0.00  | 180.00 | 7117.28  | Hold 89.74° Inc, 179.55° Azimuth     |
| 15  | 20230.89 | 89.74 | 179.55 | 10107.18 | -10253.30 | 159.00 | 0.00  | 0.00   | 10254.23 | PBHL                                 |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Lateral 1r1                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Plan 1.0                     | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | Lea County, New Mexico    |                      |                |
| <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   |                      |                |

| Site                  |           | Merchant State Unit 301H |                 |                   |                   |
|-----------------------|-----------|--------------------------|-----------------|-------------------|-------------------|
| Site Position:        |           | Northing:                | 525,419.80 usft | Latitude:         | 32° 26' 31.203 N  |
| From:                 | Map       | Easting:                 | 783,356.40 usft | Longitude:        | 103° 32' 55.755 W |
| Position Uncertainty: | 0.00 usft | Slot Radius:             | 13-3/16 "       | Grid Convergence: | 0.42 °            |

|                      |                   |           |                     |                 |               |                   |
|----------------------|-------------------|-----------|---------------------|-----------------|---------------|-------------------|
| Well                 | #301H - Slot 301H |           |                     |                 |               |                   |
| Well Position        | +N/-S             | 0.00 usft | Northing:           | 525,419.80 usft | Latitude:     | 32° 26' 31.203 N  |
|                      | +E/-W             | 0.00 usft | Easting:            | 783,356.40 usft | Longitude:    | 103° 32' 55.755 W |
| Position Uncertainty |                   | 0.00 usft | Wellhead Elevation: | usft            | Ground Level: | 3,685.00 usft     |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Lateral 1r1       |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | MVHD              | 1/15/2020          | 6.57                   | 60.19                | 48,030.12249349            |

|                          |                                |                     |                      |                      |  |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|--|
| <b>Design</b>            | Plan 1.0                       |                     |                      |                      |  |
| <b>Audit Notes:</b>      |                                |                     |                      |                      |  |
| <b>Version:</b>          | <b>Phase:</b>                  | PROTOTYPE           | <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                 | 179.55               |  |

|                            |                  |                          |                  |                    |  |
|----------------------------|------------------|--------------------------|------------------|--------------------|--|
| <b>Survey Tool Program</b> | <b>Date</b>      | 1/15/2020                |                  |                    |  |
| <b>From (usft)</b>         | <b>To (usft)</b> | <b>Survey (Wellbore)</b> | <b>Tool Name</b> | <b>Description</b> |  |
| 0.00                       | 20,230.89        | Plan 1.0 (Lateral 1r1)   | B001Mb_MWD+HRGM  | OWSG MWD + HRGM    |  |

|                              |                        |                    |                              |                     |                     |                                |                                |                               |                              |  |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|--------------------------------|-------------------------------|------------------------------|--|
| <b>Planned 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                         |  |
| <b>FTP (Merchant301H)</b>    |                        |                    |                              |                     |                     |                                |                                |                               |                              |  |
| 100.00                       | 0.00                   | 0.00               | 100.00                       | 0.00                | 0.00                | 0.00                           | 0.00                           | 0.00                          | 0.00                         |  |
| 200.00                       | 0.00                   | 0.00               | 200.00                       | 0.00                | 0.00                | 0.00                           | 0.00                           | 0.00                          | 0.00                         |  |
| 300.00                       | 0.00                   | 0.00               | 300.00                       | 0.00                | 0.00                | 0.00                           | 0.00                           | 0.00                          | 0.00                         |  |
| 400.00                       | 0.00                   | 0.00               | 400.00                       | 0.00                | 0.00                | 0.00                           | 0.00                           | 0.00                          | 0.00                         |  |
| 500.00                       | 0.00                   | 0.00               | 500.00                       | 0.00                | 0.00                | 0.00                           | 0.00                           | 0.00                          | 0.00                         |  |
| 600.00                       | 0.00                   | 0.00               | 600.00                       | 0.00                | 0.00                | 0.00                           | 0.00                           | 0.00                          | 0.00                         |  |
| 700.00                       | 0.00                   | 0.00               | 700.00                       | 0.00                | 0.00                | 0.00                           | 0.00                           | 0.00                          | 0.00                         |  |
| 800.00                       | 0.00                   | 0.00               | 800.00                       | 0.00                | 0.00                | 0.00                           | 0.00                           | 0.00                          | 0.00                         |  |
| 900.00                       | 0.00                   | 0.00               | 900.00                       | 0.00                | 0.00                | 0.00                           | 0.00                           | 0.00                          | 0.00                         |  |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Lateral 1r1                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Plan 1.0                     | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| Planned 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) |
| 1,000.00              | 0.00            | 0.00        | 1,000.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,100.00              | 0.00            | 0.00        | 1,100.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,200.00              | 0.00            | 0.00        | 1,200.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,300.00              | 0.00            | 0.00        | 1,300.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,400.00              | 0.00            | 0.00        | 1,400.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,500.00              | 0.00            | 0.00        | 1,500.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,600.00              | 0.00            | 0.00        | 1,600.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,676.00              | 0.00            | 0.00        | 1,676.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| Rustler               |                 |             |                       |              |              |                         |                         |                        |                       |
| 1,700.00              | 0.00            | 0.00        | 1,700.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,750.00              | 0.00            | 0.00        | 1,750.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 13 3/8"               |                 |             |                       |              |              |                         |                         |                        |                       |
| 1,800.00              | 0.00            | 0.00        | 1,800.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 1,900.00              | 0.00            | 0.00        | 1,900.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,000.00              | 0.00            | 0.00        | 2,000.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,100.00              | 0.00            | 0.00        | 2,100.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,200.00              | 0.00            | 0.00        | 2,200.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,300.00              | 0.00            | 0.00        | 2,300.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,400.00              | 0.00            | 0.00        | 2,400.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,500.00              | 0.00            | 0.00        | 2,500.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,600.00              | 0.00            | 0.00        | 2,600.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,700.00              | 0.00            | 0.00        | 2,700.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,800.00              | 0.00            | 0.00        | 2,800.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 2,900.00              | 0.00            | 0.00        | 2,900.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 3,000.00              | 0.00            | 0.00        | 3,000.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 3,100.00              | 0.00            | 0.00        | 3,100.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 3,200.00              | 0.00            | 0.00        | 3,200.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 3,300.00              | 0.00            | 0.00        | 3,300.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 3,400.00              | 0.00            | 0.00        | 3,400.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 3,500.00              | 0.00            | 0.00        | 3,500.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 3,600.00              | 0.00            | 0.00        | 3,600.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 3,700.00              | 0.00            | 0.00        | 3,700.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 3,800.00              | 0.00            | 0.00        | 3,800.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 3,900.00              | 0.00            | 0.00        | 3,900.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 4,000.00              | 0.00            | 0.00        | 4,000.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 4,100.00              | 0.00            | 0.00        | 4,100.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 4,200.00              | 0.00            | 0.00        | 4,200.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 4,300.00              | 0.00            | 0.00        | 4,300.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 4,400.00              | 0.00            | 0.00        | 4,400.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 4,500.00              | 0.00            | 0.00        | 4,500.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 4,600.00              | 0.00            | 0.00        | 4,600.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 4,700.00              | 0.00            | 0.00        | 4,700.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 4,800.00              | 0.00            | 0.00        | 4,800.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Lateral 1r1                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Plan 1.0                     | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| Planned 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) |
| 4,900.00                               | 0.00            | 0.00        | 4,900.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 5,000.00                               | 0.00            | 0.00        | 5,000.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 5,100.00                               | 0.00            | 0.00        | 5,100.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 5,200.00                               | 0.00            | 0.00        | 5,200.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 5,240.00                               | 0.00            | 0.00        | 5,240.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| <b>Limestone Base</b>                  |                 |             |                       |              |              |                         |                         |                        |                       |
| 5,300.00                               | 0.00            | 0.00        | 5,300.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 5,315.00                               | 0.00            | 0.00        | 5,315.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| <b>9 5/8"</b>                          |                 |             |                       |              |              |                         |                         |                        |                       |
| 5,400.00                               | 0.00            | 0.00        | 5,400.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| <b>Build 1.00°/100'</b>                |                 |             |                       |              |              |                         |                         |                        |                       |
| 5,500.00                               | 1.00            | 345.94      | 5,500.00              | 0.85         | -0.21        | -0.85                   | 1.00                    | 1.00                   | 0.00                  |
| 5,600.00                               | 2.00            | 345.94      | 5,599.96              | 3.39         | -0.85        | -3.39                   | 1.00                    | 1.00                   | 0.00                  |
| 5,700.00                               | 3.00            | 345.94      | 5,699.86              | 7.62         | -1.91        | -7.63                   | 1.00                    | 1.00                   | 0.00                  |
| 5,800.00                               | 4.00            | 345.94      | 5,799.68              | 13.54        | -3.39        | -13.56                  | 1.00                    | 1.00                   | 0.00                  |
| 5,900.00                               | 5.00            | 345.94      | 5,899.37              | 21.15        | -5.30        | -21.19                  | 1.00                    | 1.00                   | 0.00                  |
| <b>Hold 5.00° Inc, 345.94° Azimuth</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 6,000.00                               | 5.00            | 345.94      | 5,998.99              | 29.60        | -7.42        | -29.66                  | 0.00                    | 0.00                   | 0.00                  |
| 6,100.00                               | 5.00            | 345.94      | 6,098.60              | 38.06        | -9.53        | -38.13                  | 0.00                    | 0.00                   | 0.00                  |
| 6,200.00                               | 5.00            | 345.94      | 6,198.22              | 46.51        | -11.65       | -46.60                  | 0.00                    | 0.00                   | 0.00                  |
| 6,300.00                               | 5.00            | 345.94      | 6,297.84              | 54.97        | -13.77       | -55.07                  | 0.00                    | 0.00                   | 0.00                  |
| 6,400.00                               | 5.00            | 345.94      | 6,397.46              | 63.42        | -15.89       | -63.54                  | 0.00                    | 0.00                   | 0.00                  |
| 6,500.00                               | 5.00            | 345.94      | 6,497.08              | 71.88        | -18.00       | -72.01                  | 0.00                    | 0.00                   | 0.00                  |
| 6,580.14                               | 5.00            | 345.94      | 6,576.92              | 78.65        | -19.70       | -78.80                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Drop 1.00°/100'</b>                 |                 |             |                       |              |              |                         |                         |                        |                       |
| 6,600.00                               | 4.80            | 345.94      | 6,596.71              | 80.30        | -20.11       | -80.45                  | 1.00                    | -1.00                  | 0.00                  |
| 6,700.00                               | 3.80            | 345.94      | 6,696.42              | 87.57        | -21.94       | -87.74                  | 1.00                    | -1.00                  | 0.00                  |
| 6,800.00                               | 2.80            | 345.94      | 6,796.25              | 93.16        | -23.34       | -93.34                  | 1.00                    | -1.00                  | 0.00                  |
| 6,900.00                               | 1.80            | 345.94      | 6,896.17              | 97.05        | -24.31       | -97.24                  | 1.00                    | -1.00                  | 0.00                  |
| 7,000.00                               | 0.80            | 345.94      | 6,996.15              | 99.26        | -24.86       | -99.45                  | 1.00                    | -1.00                  | 0.00                  |
| 7,080.14                               | 0.00            | 0.00        | 7,076.28              | 99.80        | -25.00       | -99.99                  | 1.00                    | -1.00                  | 0.00                  |
| <b>Hold Vertical</b>                   |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,100.00                               | 0.00            | 0.00        | 7,096.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 7,200.00                               | 0.00            | 0.00        | 7,196.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 7,300.00                               | 0.00            | 0.00        | 7,296.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 7,400.00                               | 0.00            | 0.00        | 7,396.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 7,500.00                               | 0.00            | 0.00        | 7,496.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 7,600.00                               | 0.00            | 0.00        | 7,596.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 7,700.00                               | 0.00            | 0.00        | 7,696.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 7,800.00                               | 0.00            | 0.00        | 7,796.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 7,900.00                               | 0.00            | 0.00        | 7,896.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 8,000.00                               | 0.00            | 0.00        | 7,996.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 8,100.00                               | 0.00            | 0.00        | 8,096.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 8,200.00                               | 0.00            | 0.00        | 8,196.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 8,300.00                               | 0.00            | 0.00        | 8,296.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Lateral 1r1                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Plan 1.0                     | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| Planned 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) |
| 8,400.00                                    | 0.00            | 0.00        | 8,396.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 8,500.00                                    | 0.00            | 0.00        | 8,496.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 8,511.86                                    | 0.00            | 0.00        | 8,508.00              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Lower Brushy</b>                         |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,600.00                                    | 0.00            | 0.00        | 8,596.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 8,700.00                                    | 0.00            | 0.00        | 8,696.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 8,800.00                                    | 0.00            | 0.00        | 8,796.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 8,900.00                                    | 0.00            | 0.00        | 8,896.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 9,000.00                                    | 0.00            | 0.00        | 8,996.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 9,028.86                                    | 0.00            | 0.00        | 9,025.00              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| <b>Avalon</b>                               |                 |             |                       |              |              |                         |                         |                        |                       |
| 9,100.00                                    | 0.00            | 0.00        | 9,096.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 9,200.00                                    | 0.00            | 0.00        | 9,196.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 9,300.00                                    | 0.00            | 0.00        | 9,296.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 9,400.00                                    | 0.00            | 0.00        | 9,396.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 9,500.00                                    | 0.00            | 0.00        | 9,496.14              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| 9,537.23                                    | 0.00            | 0.00        | 9,533.37              | 99.80        | -25.00       | -99.99                  | 0.00                    | 0.00                   | 0.00                  |
| <b>KOP, Build 10.00°/100'</b>               |                 |             |                       |              |              |                         |                         |                        |                       |
| 9,550.00                                    | 1.28            | 166.82      | 9,546.14              | 99.66        | -24.97       | -99.85                  | 10.00                   | 10.00                  | 0.00                  |
| 9,600.00                                    | 6.28            | 166.82      | 9,596.02              | 96.46        | -24.22       | -96.64                  | 10.00                   | 10.00                  | 0.00                  |
| 9,650.00                                    | 11.28           | 166.82      | 9,645.42              | 89.03        | -22.48       | -89.20                  | 10.00                   | 10.00                  | 0.00                  |
| 9,700.00                                    | 16.28           | 166.82      | 9,693.96              | 77.44        | -19.76       | -77.59                  | 10.00                   | 10.00                  | 0.00                  |
| 9,750.00                                    | 21.28           | 166.82      | 9,741.29              | 61.77        | -16.10       | -61.90                  | 10.00                   | 10.00                  | 0.00                  |
| 9,800.00                                    | 26.28           | 166.82      | 9,787.03              | 42.15        | -11.50       | -42.24                  | 10.00                   | 10.00                  | 0.00                  |
| 9,850.00                                    | 31.28           | 166.82      | 9,830.84              | 18.72        | -6.02        | -18.77                  | 10.00                   | 10.00                  | 0.00                  |
| 9,900.00                                    | 36.28           | 166.82      | 9,872.39              | -8.34        | 0.32         | 8.34                    | 10.00                   | 10.00                  | 0.00                  |
| 9,950.00                                    | 41.28           | 166.82      | 9,911.35              | -38.82       | 7.46         | 38.87                   | 10.00                   | 10.00                  | 0.00                  |
| 10,000.00                                   | 46.28           | 166.82      | 9,947.44              | -72.49       | 15.34        | 72.61                   | 10.00                   | 10.00                  | 0.00                  |
| 10,050.00                                   | 51.28           | 166.82      | 9,980.38              | -109.09      | 23.91        | 109.28                  | 10.00                   | 10.00                  | 0.00                  |
| 10,100.00                                   | 56.28           | 166.82      | 10,009.92             | -148.36      | 33.10        | 148.61                  | 10.00                   | 10.00                  | 0.00                  |
| 10,118.62                                   | 58.14           | 166.82      | 10,020.00             | -163.59      | 36.67        | 163.87                  | 10.00                   | 10.00                  | 0.00                  |
| <b>1st BS Sand</b>                          |                 |             |                       |              |              |                         |                         |                        |                       |
| 10,150.00                                   | 61.28           | 166.82      | 10,035.83             | -189.97      | 42.85        | 190.30                  | 10.00                   | 10.00                  | 0.00                  |
| 10,187.23                                   | 65.00           | 166.82      | 10,052.65             | -222.30      | 50.42        | 222.69                  | 10.00                   | 10.00                  | 0.00                  |
| <b>Build 10.00°/100'</b>                    |                 |             |                       |              |              |                         |                         |                        |                       |
| 10,200.00                                   | 66.14           | 167.45      | 10,057.93             | -233.64      | 53.01        | 234.05                  | 10.00                   | 8.93                   | 4.94                  |
| 10,250.00                                   | 70.63           | 169.82      | 10,076.34             | -279.20      | 62.15        | 279.68                  | 10.00                   | 8.98                   | 4.74                  |
| 10,300.00                                   | 75.15           | 172.06      | 10,091.05             | -326.38      | 69.66        | 326.92                  | 10.00                   | 9.04                   | 4.48                  |
| 10,350.00                                   | 79.69           | 174.21      | 10,101.94             | -374.81      | 75.48        | 375.39                  | 10.00                   | 9.08                   | 4.30                  |
| 10,400.00                                   | 84.24           | 176.30      | 10,108.93             | -424.14      | 79.56        | 424.75                  | 10.00                   | 9.11                   | 4.18                  |
| 10,450.00                                   | 88.80           | 178.36      | 10,111.97             | -473.98      | 81.89        | 474.60                  | 10.00                   | 9.12                   | 4.11                  |
| 10,479.17                                   | 91.46           | 179.55      | 10,111.90             | -503.14      | 82.42        | 503.77                  | 10.00                   | 9.12                   | 4.09                  |
| <b>LP, Hold 91.46° Inc, 179.55° Azimuth</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 10,483.12                                   | 91.46           | 179.55      | 10,111.80             | -507.09      | 82.45        | 507.72                  | 0.00                    | 0.00                   | 0.00                  |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Lateral 1r1                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Plan 1.0                     | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| Planned 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) |
| <b>T1 (Merchant301H)</b>                |                 |             |                       |              |              |                         |                         |                        |                       |
| 10,500.00                               | 91.46           | 179.55      | 10,111.37             | -523.96      | 82.58        | 524.59                  | 0.00                    | 0.00                   | 0.00                  |
| 10,600.00                               | 91.46           | 179.55      | 10,108.82             | -623.92      | 83.37        | 624.56                  | 0.00                    | 0.00                   | 0.00                  |
| 10,700.00                               | 91.46           | 179.55      | 10,106.27             | -723.89      | 84.15        | 724.53                  | 0.00                    | 0.00                   | 0.00                  |
| 10,800.00                               | 91.46           | 179.55      | 10,103.72             | -823.85      | 84.94        | 824.49                  | 0.00                    | 0.00                   | 0.00                  |
| 10,900.00                               | 91.46           | 179.55      | 10,101.16             | -923.82      | 85.73        | 924.46                  | 0.00                    | 0.00                   | 0.00                  |
| 11,000.00                               | 91.46           | 179.55      | 10,098.61             | -1,023.78    | 86.51        | 1,024.43                | 0.00                    | 0.00                   | 0.00                  |
| 11,100.00                               | 91.46           | 179.55      | 10,096.06             | -1,123.75    | 87.30        | 1,124.40                | 0.00                    | 0.00                   | 0.00                  |
| 11,200.00                               | 91.46           | 179.55      | 10,093.51             | -1,223.71    | 88.08        | 1,224.36                | 0.00                    | 0.00                   | 0.00                  |
| 11,300.00                               | 91.46           | 179.55      | 10,090.96             | -1,323.67    | 88.87        | 1,324.33                | 0.00                    | 0.00                   | 0.00                  |
| 11,400.00                               | 91.46           | 179.55      | 10,088.41             | -1,423.64    | 89.65        | 1,424.30                | 0.00                    | 0.00                   | 0.00                  |
| 11,500.00                               | 91.46           | 179.55      | 10,085.86             | -1,523.60    | 90.44        | 1,524.27                | 0.00                    | 0.00                   | 0.00                  |
| 11,600.00                               | 91.46           | 179.55      | 10,083.30             | -1,623.57    | 91.22        | 1,624.23                | 0.00                    | 0.00                   | 0.00                  |
| 11,700.00                               | 91.46           | 179.55      | 10,080.75             | -1,723.53    | 92.01        | 1,724.20                | 0.00                    | 0.00                   | 0.00                  |
| 11,800.00                               | 91.46           | 179.55      | 10,078.20             | -1,823.50    | 92.79        | 1,824.17                | 0.00                    | 0.00                   | 0.00                  |
| 11,900.00                               | 91.46           | 179.55      | 10,075.65             | -1,923.46    | 93.58        | 1,924.14                | 0.00                    | 0.00                   | 0.00                  |
| 12,000.00                               | 91.46           | 179.55      | 10,073.10             | -2,023.43    | 94.36        | 2,024.10                | 0.00                    | 0.00                   | 0.00                  |
| 12,019.90                               | 91.46           | 179.55      | 10,072.59             | -2,043.32    | 94.52        | 2,044.00                | 0.00                    | 0.00                   | 0.00                  |
| <b>Drop 2.00°/100'</b>                  |                 |             |                       |              |              |                         |                         |                        |                       |
| 12,020.22                               | 91.46           | 179.55      | 10,072.58             | -2,043.64    | 94.52        | 2,044.32                | 2.00                    | -2.00                  | 0.00                  |
| <b>T2 (Merchant301H)</b>                |                 |             |                       |              |              |                         |                         |                        |                       |
| 12,100.00                               | 89.86           | 179.55      | 10,071.67             | -2,123.41    | 95.15        | 2,124.09                | 2.00                    | -2.00                  | 0.00                  |
| 12,158.70                               | 88.69           | 179.55      | 10,072.41             | -2,182.10    | 95.61        | 2,182.79                | 2.00                    | -2.00                  | 0.00                  |
| <b>Hold 88.69° Inc, 179.55° Azimuth</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 12,200.00                               | 88.69           | 179.55      | 10,073.36             | -2,223.39    | 95.93        | 2,224.07                | 0.00                    | 0.00                   | 0.00                  |
| 12,300.00                               | 88.69           | 179.55      | 10,075.65             | -2,323.36    | 96.72        | 2,324.05                | 0.00                    | 0.00                   | 0.00                  |
| 12,400.00                               | 88.69           | 179.55      | 10,077.94             | -2,423.33    | 97.50        | 2,424.02                | 0.00                    | 0.00                   | 0.00                  |
| 12,500.00                               | 88.69           | 179.55      | 10,080.24             | -2,523.30    | 98.29        | 2,523.99                | 0.00                    | 0.00                   | 0.00                  |
| 12,600.00                               | 88.69           | 179.55      | 10,082.53             | -2,623.27    | 99.07        | 2,623.97                | 0.00                    | 0.00                   | 0.00                  |
| 12,700.00                               | 88.69           | 179.55      | 10,084.82             | -2,723.24    | 99.86        | 2,723.94                | 0.00                    | 0.00                   | 0.00                  |
| 12,800.00                               | 88.69           | 179.55      | 10,087.12             | -2,823.21    | 100.64       | 2,823.92                | 0.00                    | 0.00                   | 0.00                  |
| 12,900.00                               | 88.69           | 179.55      | 10,089.41             | -2,923.18    | 101.43       | 2,923.89                | 0.00                    | 0.00                   | 0.00                  |
| 13,000.00                               | 88.69           | 179.55      | 10,091.70             | -3,023.15    | 102.21       | 3,023.86                | 0.00                    | 0.00                   | 0.00                  |
| 13,100.00                               | 88.69           | 179.55      | 10,094.00             | -3,123.12    | 103.00       | 3,123.84                | 0.00                    | 0.00                   | 0.00                  |
| 13,200.00                               | 88.69           | 179.55      | 10,096.29             | -3,223.09    | 103.78       | 3,223.81                | 0.00                    | 0.00                   | 0.00                  |
| 13,300.00                               | 88.69           | 179.55      | 10,098.58             | -3,323.06    | 104.57       | 3,323.78                | 0.00                    | 0.00                   | 0.00                  |
| 13,400.00                               | 88.69           | 179.55      | 10,100.88             | -3,423.04    | 105.35       | 3,423.76                | 0.00                    | 0.00                   | 0.00                  |
| 13,500.00                               | 88.69           | 179.55      | 10,103.17             | -3,523.01    | 106.14       | 3,523.73                | 0.00                    | 0.00                   | 0.00                  |
| 13,600.00                               | 88.69           | 179.55      | 10,105.46             | -3,622.98    | 106.92       | 3,623.70                | 0.00                    | 0.00                   | 0.00                  |
| 13,700.00                               | 88.69           | 179.55      | 10,107.76             | -3,722.95    | 107.71       | 3,723.68                | 0.00                    | 0.00                   | 0.00                  |
| 13,800.00                               | 88.69           | 179.55      | 10,110.05             | -3,822.92    | 108.49       | 3,823.65                | 0.00                    | 0.00                   | 0.00                  |
| 13,900.00                               | 88.69           | 179.55      | 10,112.34             | -3,922.89    | 109.28       | 3,923.63                | 0.00                    | 0.00                   | 0.00                  |
| 14,000.00                               | 88.69           | 179.55      | 10,114.64             | -4,022.86    | 110.07       | 4,023.60                | 0.00                    | 0.00                   | 0.00                  |
| 14,100.00                               | 88.69           | 179.55      | 10,116.93             | -4,122.83    | 110.85       | 4,123.57                | 0.00                    | 0.00                   | 0.00                  |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Lateral 1r1                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Plan 1.0                     | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| Planned 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) |  |
| 14,200.00                        | 88.69           | 179.55      | 10,119.22             | -4,222.80   | 111.64      | 4,223.55                | 0.00                    | 0.00                   | 0.00                  |  |
| 14,267.16                        | 88.69           | 179.55      | 10,120.76             | -4,289.94   | 112.16      | 4,290.69                | 0.00                    | 0.00                   | 0.00                  |  |
| T3 (Merchant301H)                |                 |             |                       |             |             |                         |                         |                        |                       |  |
| 14,267.47                        | 88.69           | 179.55      | 10,120.77             | -4,290.25   | 112.17      | 4,291.00                | 0.00                    | 0.00                   | 0.00                  |  |
| Build 2.00°/100'                 |                 |             |                       |             |             |                         |                         |                        |                       |  |
| 14,300.00                        | 89.34           | 179.55      | 10,121.33             | -4,322.77   | 112.42      | 4,323.52                | 2.00                    | 2.00                   | 0.00                  |  |
| 14,363.40                        | 90.60           | 179.55      | 10,121.36             | -4,386.17   | 112.92      | 4,386.92                | 2.00                    | 2.00                   | 0.00                  |  |
| Hold 90.60° Inc, 179.55° Azimuth |                 |             |                       |             |             |                         |                         |                        |                       |  |
| 14,400.00                        | 90.60           | 179.55      | 10,120.98             | -4,422.77   | 113.21      | 4,423.52                | 0.00                    | 0.00                   | 0.00                  |  |
| 14,500.00                        | 90.60           | 179.55      | 10,119.92             | -4,522.76   | 113.99      | 4,523.52                | 0.00                    | 0.00                   | 0.00                  |  |
| 14,600.00                        | 90.60           | 179.55      | 10,118.87             | -4,622.75   | 114.78      | 4,623.51                | 0.00                    | 0.00                   | 0.00                  |  |
| 14,700.00                        | 90.60           | 179.55      | 10,117.81             | -4,722.74   | 115.56      | 4,723.50                | 0.00                    | 0.00                   | 0.00                  |  |
| 14,800.00                        | 90.60           | 179.55      | 10,116.76             | -4,822.73   | 116.35      | 4,823.50                | 0.00                    | 0.00                   | 0.00                  |  |
| 14,900.00                        | 90.60           | 179.55      | 10,115.70             | -4,922.72   | 117.13      | 4,923.49                | 0.00                    | 0.00                   | 0.00                  |  |
| 15,000.00                        | 90.60           | 179.55      | 10,114.65             | -5,022.72   | 117.92      | 5,023.49                | 0.00                    | 0.00                   | 0.00                  |  |
| 15,100.00                        | 90.60           | 179.55      | 10,113.59             | -5,122.71   | 118.70      | 5,123.48                | 0.00                    | 0.00                   | 0.00                  |  |
| 15,200.00                        | 90.60           | 179.55      | 10,112.54             | -5,222.70   | 119.49      | 5,223.48                | 0.00                    | 0.00                   | 0.00                  |  |
| 15,300.00                        | 90.60           | 179.55      | 10,111.48             | -5,322.69   | 120.27      | 5,323.47                | 0.00                    | 0.00                   | 0.00                  |  |
| 15,400.00                        | 90.60           | 179.55      | 10,110.43             | -5,422.68   | 121.06      | 5,423.47                | 0.00                    | 0.00                   | 0.00                  |  |
| 15,500.00                        | 90.60           | 179.55      | 10,109.37             | -5,522.67   | 121.85      | 5,523.46                | 0.00                    | 0.00                   | 0.00                  |  |
| 15,600.00                        | 90.60           | 179.55      | 10,108.32             | -5,622.66   | 122.63      | 5,623.45                | 0.00                    | 0.00                   | 0.00                  |  |
| 15,700.00                        | 90.60           | 179.55      | 10,107.26             | -5,722.66   | 123.42      | 5,723.45                | 0.00                    | 0.00                   | 0.00                  |  |
| 15,800.00                        | 90.60           | 179.55      | 10,106.21             | -5,822.65   | 124.20      | 5,823.44                | 0.00                    | 0.00                   | 0.00                  |  |
| 15,900.00                        | 90.60           | 179.55      | 10,105.15             | -5,922.64   | 124.99      | 5,923.44                | 0.00                    | 0.00                   | 0.00                  |  |
| 16,000.00                        | 90.60           | 179.55      | 10,104.10             | -6,022.63   | 125.77      | 6,023.43                | 0.00                    | 0.00                   | 0.00                  |  |
| 16,100.00                        | 90.60           | 179.55      | 10,103.04             | -6,122.62   | 126.56      | 6,123.43                | 0.00                    | 0.00                   | 0.00                  |  |
| 16,200.00                        | 90.60           | 179.55      | 10,101.99             | -6,222.61   | 127.34      | 6,223.42                | 0.00                    | 0.00                   | 0.00                  |  |
| 16,300.00                        | 90.60           | 179.55      | 10,100.93             | -6,322.60   | 128.13      | 6,323.42                | 0.00                    | 0.00                   | 0.00                  |  |
| 16,400.00                        | 90.60           | 179.55      | 10,099.88             | -6,422.60   | 128.91      | 6,423.41                | 0.00                    | 0.00                   | 0.00                  |  |
| 16,500.00                        | 90.60           | 179.55      | 10,098.82             | -6,522.59   | 129.70      | 6,523.40                | 0.00                    | 0.00                   | 0.00                  |  |
| 16,600.00                        | 90.60           | 179.55      | 10,097.77             | -6,622.58   | 130.48      | 6,623.40                | 0.00                    | 0.00                   | 0.00                  |  |
| 16,700.00                        | 90.60           | 179.55      | 10,096.71             | -6,722.57   | 131.27      | 6,723.39                | 0.00                    | 0.00                   | 0.00                  |  |
| 16,800.00                        | 90.60           | 179.55      | 10,095.66             | -6,822.56   | 132.05      | 6,823.39                | 0.00                    | 0.00                   | 0.00                  |  |
| 16,900.00                        | 90.60           | 179.55      | 10,094.60             | -6,922.55   | 132.84      | 6,923.38                | 0.00                    | 0.00                   | 0.00                  |  |
| 17,000.00                        | 90.60           | 179.55      | 10,093.55             | -7,022.54   | 133.63      | 7,023.38                | 0.00                    | 0.00                   | 0.00                  |  |
| 17,050.63                        | 90.60           | 179.55      | 10,093.01             | -7,073.17   | 134.02      | 7,074.00                | 0.00                    | 0.00                   | 0.00                  |  |
| Drop 2.00°/100'                  |                 |             |                       |             |             |                         |                         |                        |                       |  |
| 17,050.77                        | 90.60           | 179.55      | 10,093.01             | -7,073.31   | 134.02      | 7,074.14                | 0.00                    | 0.00                   | 0.00                  |  |
| T4 (Merchant301H)                |                 |             |                       |             |             |                         |                         |                        |                       |  |
| 17,093.91                        | 89.74           | 179.55      | 10,092.88             | -7,116.45   | 134.36      | 7,117.28                | 2.01                    | -2.01                  | 0.00                  |  |
| Hold 89.74° Inc, 179.55° Azimuth |                 |             |                       |             |             |                         |                         |                        |                       |  |
| 17,100.00                        | 89.74           | 179.55      | 10,092.91             | -7,122.54   | 134.41      | 7,123.37                | 0.00                    | 0.00                   | 0.00                  |  |
| 17,200.00                        | 89.74           | 179.55      | 10,093.37             | -7,222.53   | 135.20      | 7,223.37                | 0.00                    | 0.00                   | 0.00                  |  |
| 17,300.00                        | 89.74           | 179.55      | 10,093.82             | -7,322.53   | 135.98      | 7,323.37                | 0.00                    | 0.00                   | 0.00                  |  |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Lateral 1r1                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Plan 1.0                     | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| Planned 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) |
| 17,400.00                     | 89.74           | 179.55      | 10,094.28             | -7,422.52    | 136.77       | 7,423.37                | 0.00                    | 0.00                   | 0.00                  |
| 17,500.00                     | 89.74           | 179.55      | 10,094.73             | -7,522.52    | 137.55       | 7,523.37                | 0.00                    | 0.00                   | 0.00                  |
| 17,600.00                     | 89.74           | 179.55      | 10,095.19             | -7,622.52    | 138.34       | 7,623.37                | 0.00                    | 0.00                   | 0.00                  |
| 17,700.00                     | 89.74           | 179.55      | 10,095.64             | -7,722.51    | 139.12       | 7,723.37                | 0.00                    | 0.00                   | 0.00                  |
| 17,800.00                     | 89.74           | 179.55      | 10,096.10             | -7,822.51    | 139.91       | 7,823.37                | 0.00                    | 0.00                   | 0.00                  |
| 17,900.00                     | 89.74           | 179.55      | 10,096.56             | -7,922.50    | 140.69       | 7,923.36                | 0.00                    | 0.00                   | 0.00                  |
| 18,000.00                     | 89.74           | 179.55      | 10,097.01             | -8,022.50    | 141.48       | 8,023.36                | 0.00                    | 0.00                   | 0.00                  |
| 18,100.00                     | 89.74           | 179.55      | 10,097.47             | -8,122.50    | 142.26       | 8,123.36                | 0.00                    | 0.00                   | 0.00                  |
| 18,200.00                     | 89.74           | 179.55      | 10,097.92             | -8,222.49    | 143.05       | 8,223.36                | 0.00                    | 0.00                   | 0.00                  |
| 18,300.00                     | 89.74           | 179.55      | 10,098.38             | -8,322.49    | 143.84       | 8,323.36                | 0.00                    | 0.00                   | 0.00                  |
| 18,400.00                     | 89.74           | 179.55      | 10,098.84             | -8,422.48    | 144.62       | 8,423.36                | 0.00                    | 0.00                   | 0.00                  |
| 18,500.00                     | 89.74           | 179.55      | 10,099.29             | -8,522.48    | 145.41       | 8,523.36                | 0.00                    | 0.00                   | 0.00                  |
| 18,600.00                     | 89.74           | 179.55      | 10,099.75             | -8,622.47    | 146.19       | 8,623.36                | 0.00                    | 0.00                   | 0.00                  |
| 18,700.00                     | 89.74           | 179.55      | 10,100.20             | -8,722.47    | 146.98       | 8,723.36                | 0.00                    | 0.00                   | 0.00                  |
| 18,800.00                     | 89.74           | 179.55      | 10,100.66             | -8,822.47    | 147.76       | 8,823.36                | 0.00                    | 0.00                   | 0.00                  |
| 18,900.00                     | 89.74           | 179.55      | 10,101.11             | -8,922.46    | 148.55       | 8,923.35                | 0.00                    | 0.00                   | 0.00                  |
| 19,000.00                     | 89.74           | 179.55      | 10,101.57             | -9,022.46    | 149.33       | 9,023.35                | 0.00                    | 0.00                   | 0.00                  |
| 19,100.00                     | 89.74           | 179.55      | 10,102.03             | -9,122.45    | 150.12       | 9,123.35                | 0.00                    | 0.00                   | 0.00                  |
| 19,200.00                     | 89.74           | 179.55      | 10,102.48             | -9,222.45    | 150.90       | 9,223.35                | 0.00                    | 0.00                   | 0.00                  |
| 19,300.00                     | 89.74           | 179.55      | 10,102.94             | -9,322.45    | 151.69       | 9,323.35                | 0.00                    | 0.00                   | 0.00                  |
| 19,400.00                     | 89.74           | 179.55      | 10,103.39             | -9,422.44    | 152.47       | 9,423.35                | 0.00                    | 0.00                   | 0.00                  |
| 19,500.00                     | 89.74           | 179.55      | 10,103.85             | -9,522.44    | 153.26       | 9,523.35                | 0.00                    | 0.00                   | 0.00                  |
| 19,600.00                     | 89.74           | 179.55      | 10,104.30             | -9,622.43    | 154.05       | 9,623.35                | 0.00                    | 0.00                   | 0.00                  |
| 19,700.00                     | 89.74           | 179.55      | 10,104.76             | -9,722.43    | 154.83       | 9,723.35                | 0.00                    | 0.00                   | 0.00                  |
| 19,800.00                     | 89.74           | 179.55      | 10,105.22             | -9,822.43    | 155.62       | 9,823.34                | 0.00                    | 0.00                   | 0.00                  |
| 19,900.00                     | 89.74           | 179.55      | 10,105.67             | -9,922.42    | 156.40       | 9,923.34                | 0.00                    | 0.00                   | 0.00                  |
| 20,000.00                     | 89.74           | 179.55      | 10,106.13             | -10,022.42   | 157.19       | 10,023.34               | 0.00                    | 0.00                   | 0.00                  |
| 20,100.00                     | 89.74           | 179.55      | 10,106.58             | -10,122.41   | 157.97       | 10,123.34               | 0.00                    | 0.00                   | 0.00                  |
| 20,180.56                     | 89.74           | 179.55      | 10,106.95             | -10,202.97   | 158.60       | 10,203.90               | 0.00                    | 0.00                   | 0.00                  |
| T5 (Merchant301H)             |                 |             |                       |              |              |                         |                         |                        |                       |
| 20,200.00                     | 89.74           | 179.55      | 10,107.04             | -10,222.41   | 158.76       | 10,223.34               | 0.00                    | 0.00                   | 0.00                  |
| 20,230.89                     | 89.74           | 179.55      | 10,107.18             | -10,253.30   | 159.00       | 10,254.23               | 0.00                    | 0.00                   | 0.00                  |
| PBHL - PBHL r1 (Merchant301H) |                 |             |                       |              |              |                         |                         |                        |                       |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Lateral 1r1                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Plan 1.0                     | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| Design Targets                                                                                                       |                  |                 |               |                 |                 |                    |                   |                  |                   |
|----------------------------------------------------------------------------------------------------------------------|------------------|-----------------|---------------|-----------------|-----------------|--------------------|-------------------|------------------|-------------------|
| Target Name<br>- hit/miss target<br>- Shape                                                                          | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | Latitude         | Longitude         |
| FTP (Merchant301H)<br>- plan misses target center by 127.82usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)<br>- Point | 0.00             | 0.00            | 0.00          | 100.40          | 79.10           | 525,520.20         | 783,435.50        | 32° 26' 32.191 N | 103° 32' 54.823 W |
| PBHL r1 (Merchant301H)<br>- plan hits target center<br>- Point                                                       | 0.00             | 0.00            | 10,107.18     | -10,253.30      | 159.00          | 515,166.50         | 783,515.40        | 32° 24' 49.737 N | 103° 32' 54.778 W |

| Casing Points               |                             |         |                           |                         |  |
|-----------------------------|-----------------------------|---------|---------------------------|-------------------------|--|
| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Name    | Casing<br>Diameter<br>(") | Hole<br>Diameter<br>(") |  |
| 1,750.00                    | 1,750.00                    | 13 3/8" | 13-3/8                    | 17-1/2                  |  |
| 5,315.00                    | 5,315.00                    | 9 5/8"  | 9-5/8                     | 12-1/4                  |  |

| Formations                  |                             |                |           |            |                         |
|-----------------------------|-----------------------------|----------------|-----------|------------|-------------------------|
| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Name           | Lithology | Dip<br>(°) | Dip<br>Direction<br>(°) |
| 1,676.00                    | 1,676.00                    | Rustler        |           | 0.00       |                         |
| 5,240.00                    | 5,240.00                    | Limestone Base |           | 0.00       |                         |
| 8,511.86                    | 8,508.00                    | Lower Brushy   |           | 0.00       |                         |
| 9,028.86                    | 9,025.00                    | Avalon         |           | 0.00       |                         |
| 10,118.62                   | 10,020.00                   | 1st BS Sand    |           | 0.00       |                         |

| Plan Annotations            |                             |                   |                 |                                      |  |
|-----------------------------|-----------------------------|-------------------|-----------------|--------------------------------------|--|
| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                 |                                      |  |
|                             |                             | +N/-S<br>(usft)   | +E/-W<br>(usft) | Comment                              |  |
| 5400                        | 5400                        | 0                 | 0               | Build 1.00°/100'                     |  |
| 5900                        | 5899                        | 21                | -5              | Hold 5.00° Inc, 345.94° Azimuth      |  |
| 6580                        | 6577                        | 79                | -20             | Drop 1.00°/100'                      |  |
| 7080                        | 7076                        | 100               | -25             | Hold Vertical                        |  |
| 9537                        | 9533                        | 100               | -25             | KOP, Build 10.00°/100'               |  |
| 10,187                      | 10,053                      | -222              | 50              | Build 10.00°/100'                    |  |
| 10,479                      | 10,112                      | -503              | 82              | LP, Hold 91.46° Inc, 179.55° Azimuth |  |
| 12,020                      | 10,073                      | -2043             | 95              | Drop 2.00°/100'                      |  |
| 12,159                      | 10,072                      | -2182             | 96              | Hold 88.69° Inc, 179.55° Azimuth     |  |
| 14,267                      | 10,121                      | -4290             | 112             | Build 2.00°/100'                     |  |
| 14,363                      | 10,121                      | -4386             | 113             | Hold 90.60° Inc, 179.55° Azimuth     |  |
| 17,051                      | 10,093                      | -7073             | 134             | Drop 2.00°/100'                      |  |
| 17,094                      | 10,093                      | -7116             | 134             | Hold 89.74° Inc, 179.55° Azimuth     |  |
| 20,231                      | 10,107                      | -10,253           | 159             | PBHL                                 |  |

# Advance Energy Partners, LLC

Merchant State Unit 301H  
Lea County, New Mexico  
Job No. WT-20-001  
H&P 389  
Plan 1.0 Final PVA



Released to Imaging: 1/14/2022 3:05:09 PM



Azimuths to Grid North  
True North:  $-0.42^\circ$   
Magnetic North:  $6.15^\circ$

Magnetic Field  
Strength: 48030.1nT  
Dip Angle:  $60.19^\circ$   
Date: 1/15/2020  
Model: MVHD

Magnetic North:  $6.15^\circ$  to Grid North

## SITE DETAILS: Merchant State Unit 301H

Site Centre Northing: 525419.80  
Easting: 783356.40

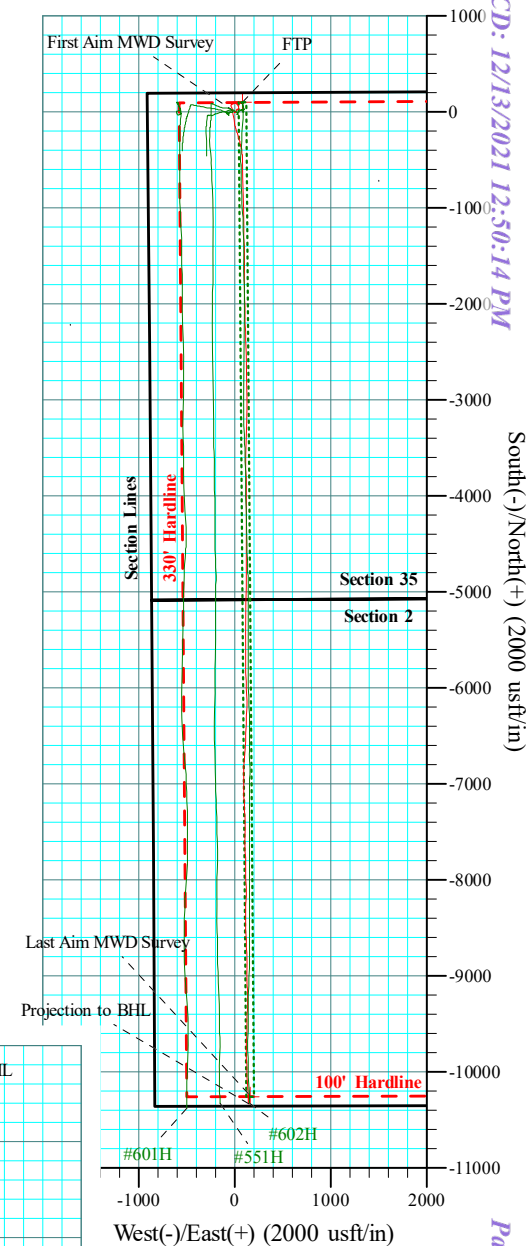
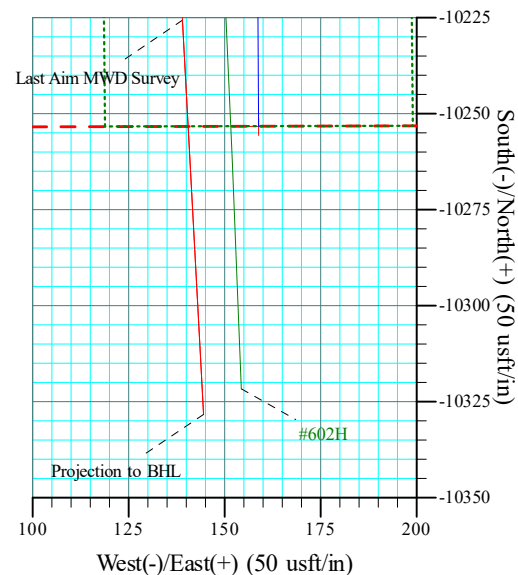
Positional Uncertainty: 0.00  
Convergence: 0.42  
Local North: Grid

## PROJECT DETAILS: Lea County, New Mexico

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

System Datum: Mean Sea Level

Depth Reference:  
3685'GL+25.5'KB @ 3710.50usft (H&P 389)

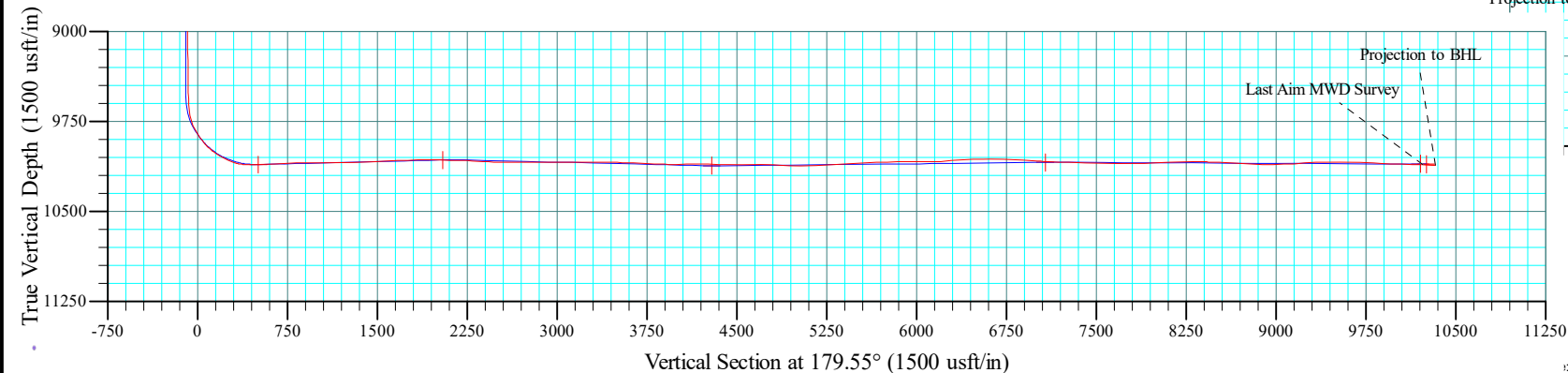


## SECTION DETAILS

| Sec | MD       | Inc   | Azi    | TVD      | +N/-S     | +E/-W  | Dleg | TFace | VSect    | Annotation          |
|-----|----------|-------|--------|----------|-----------|--------|------|-------|----------|---------------------|
| 1   | 20213.00 | 88.35 | 177.01 | 10112.09 | -10225.57 | 139.18 | 0.00 | 0.00  | 10226.34 | Last Aim MWD Survey |
| 2   | 20316.00 | 88.35 | 177.01 | 10115.05 | -10328.38 | 144.55 | 0.00 | 0.00  | 10329.20 | Projection to BHL   |

## DESIGN TARGET DETAILS

| Name                   | TVD      | +N/-S     | +E/-W  | Northing  | Easting   | Latitude         | Longitude         |
|------------------------|----------|-----------|--------|-----------|-----------|------------------|-------------------|
| FTP (Merchant301H)     | 0.00     | 100.40    | 79.10  | 525520.20 | 783435.50 | 32° 26' 32.191 N | 103° 32' 54.823 W |
| PBHL r1 (Merchant301H) | 10107.18 | -10253.30 | 159.00 | 515166.50 | 783515.40 | 32° 24' 49.737 N | 103° 32' 54.778 W |



South(-)/North(+) (2000 usft/in)

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# Survey Reports

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## Merchant State Unit 301H (WT-20-001)

2020-01-13 to 2020-02-11

Lea, New Mexico, US (32.44, -103.55)

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## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Aim MWD Surveys              | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Aim MWD Surveys              | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | Lea County, New Mexico    |                      |                |
| <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   |                      |                |

| Site                  |           | Merchant State Unit 301H |                 |                   |                   |
|-----------------------|-----------|--------------------------|-----------------|-------------------|-------------------|
| Site Position:        |           | Northing:                | 525,419.80 usft | Latitude:         | 32° 26' 31.203 N  |
| From:                 | Map       | Easting:                 | 783,356.40 usft | Longitude:        | 103° 32' 55.755 W |
| Position Uncertainty: | 0.00 usft | Slot Radius:             | 13-3/16 "       | Grid Convergence: | 0.42 °            |

|                      |                   |           |                     |                 |               |                   |
|----------------------|-------------------|-----------|---------------------|-----------------|---------------|-------------------|
| Well                 | #301H - Slot 301H |           |                     |                 |               |                   |
| Well Position        | +N/-S             | 0.00 usft | Northing:           | 525,419.80 usft | Latitude:     | 32° 26' 31.203 N  |
|                      | +E/-W             | 0.00 usft | Easting:            | 783,356.40 usft | Longitude:    | 103° 32' 55.755 W |
| Position Uncertainty |                   | 0.00 usft | Wellhead Elevation: | usft            | Ground Level: | 3,685.00 usft     |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Aim MWD Surveys   |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | MVHD              | 1/14/2020          | 6.57                   | 60.19                | 48,030.42077435            |

|                          |                                |                     |                     |                      |      |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|------|
| <b>Design</b>            | Aim MWD 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                | 179.55               |      |

|                       |                  |                                   |                  |                    |  |
|-----------------------|------------------|-----------------------------------|------------------|--------------------|--|
| <b>Survey Program</b> | <b>Date</b>      | 2/11/2020                         |                  |                    |  |
| <b>From (usft)</b>    | <b>To (usft)</b> | <b>Survey (Wellbore)</b>          | <b>Tool Name</b> | <b>Description</b> |  |
| 235.00                | 20,316.00        | Aim MWD Surveys (Aim MWD Surveys) | B001Mb_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                         |
| 235.00                       | 0.70                   | 87.98              | 234.99                       | 0.05                | 1.43                | -0.04                          | 0.30                           | 0.30                          | 0.00                         |
| <b>First Aim MWD Survey</b>  |                        |                    |                              |                     |                     |                                |                                |                               |                              |
| 329.00                       | 0.70                   | 108.45             | 328.99                       | -0.11               | 2.55                | 0.13                           | 0.26                           | 0.00                          | 21.78                        |
| 424.00                       | 0.26                   | 124.71             | 423.98                       | -0.42               | 3.28                | 0.44                           | 0.48                           | -0.46                         | 17.12                        |
| 518.00                       | 0.18                   | 76.46              | 517.98                       | -0.50               | 3.60                | 0.53                           | 0.21                           | -0.09                         | -51.33                       |
| 613.00                       | 0.26                   | 61.43              | 612.98                       | -0.37               | 3.93                | 0.40                           | 0.10                           | 0.08                          | -15.82                       |
| 707.00                       | 0.26                   | 57.04              | 706.98                       | -0.15               | 4.30                | 0.18                           | 0.02                           | 0.00                          | -4.67                        |
| 801.00                       | 0.13                   | 130.43             | 800.98                       | -0.10               | 4.56                | 0.14                           | 0.27                           | -0.14                         | 78.07                        |
| 895.00                       | 0.09                   | 202.67             | 894.98                       | -0.24               | 4.61                | 0.27                           | 0.14                           | -0.04                         | 76.85                        |
| 989.00                       | 0.13                   | 195.64             | 988.98                       | -0.41               | 4.56                | 0.45                           | 0.04                           | 0.04                          | -7.48                        |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Aim MWD Surveys              | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Aim MWD Surveys              | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| 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) |
| 1,083.00              | 0.04            | 80.33       | 1,082.98              | -0.51        | 4.56         | 0.54                    | 0.16                    | -0.10                  | -122.67               |
| 1,177.00              | 0.09            | 291.44      | 1,176.98              | -0.47        | 4.52         | 0.51                    | 0.13                    | 0.05                   | -158.39               |
| 1,270.00              | 0.13            | 260.94      | 1,269.98              | -0.46        | 4.35         | 0.50                    | 0.07                    | 0.04                   | -32.80                |
| 1,365.00              | 0.18            | 266.39      | 1,364.98              | -0.49        | 4.10         | 0.52                    | 0.05                    | 0.05                   | 5.74                  |
| 1,459.00              | 0.22            | 247.50      | 1,458.98              | -0.57        | 3.78         | 0.60                    | 0.08                    | 0.04                   | -20.10                |
| 1,549.00              | 0.31            | 271.67      | 1,548.98              | -0.63        | 3.38         | 0.65                    | 0.16                    | 0.10                   | 26.86                 |
| 1,638.00              | 0.26            | 288.02      | 1,637.98              | -0.56        | 2.95         | 0.58                    | 0.11                    | -0.06                  | 18.37                 |
| 1,693.00              | 0.26            | 254.18      | 1,692.98              | -0.55        | 2.71         | 0.57                    | 0.28                    | 0.00                   | -61.53                |
| 1,818.00              | 0.44            | 44.12       | 1,817.98              | -0.29        | 2.77         | 0.31                    | 0.54                    | 0.14                   | 119.95                |
| 1,907.00              | 0.75            | 68.73       | 1,906.97              | 0.17         | 3.55         | -0.14                   | 0.44                    | 0.35                   | 27.65                 |
| 1,997.00              | 0.79            | 52.91       | 1,996.96              | 0.76         | 4.59         | -0.72                   | 0.24                    | 0.04                   | -17.58                |
| 2,086.00              | 0.75            | 57.74       | 2,085.96              | 1.44         | 5.57         | -1.40                   | 0.09                    | -0.04                  | 5.43                  |
| 2,176.00              | 0.92            | 49.57       | 2,175.95              | 2.22         | 6.62         | -2.17                   | 0.23                    | 0.19                   | -9.08                 |
| 2,266.00              | 0.75            | 57.48       | 2,265.94              | 3.01         | 7.67         | -2.95                   | 0.23                    | -0.19                  | 8.79                  |
| 2,445.00              | 0.66            | 53.35       | 2,444.92              | 4.25         | 9.48         | -4.18                   | 0.06                    | -0.05                  | -2.31                 |
| 2,535.00              | 0.70            | 40.34       | 2,534.92              | 4.98         | 10.26        | -4.90                   | 0.18                    | 0.04                   | -14.46                |
| 2,624.00              | 0.84            | 28.03       | 2,623.91              | 5.97         | 10.91        | -5.89                   | 0.24                    | 0.16                   | -13.83                |
| 2,714.00              | 1.01            | 19.95       | 2,713.90              | 7.30         | 11.50        | -7.21                   | 0.24                    | 0.19                   | -8.98                 |
| 2,803.00              | 1.01            | 32.52       | 2,802.88              | 8.70         | 12.18        | -8.60                   | 0.25                    | 0.00                   | 14.12                 |
| 2,893.00              | 1.10            | 33.13       | 2,892.87              | 10.09        | 13.08        | -9.99                   | 0.10                    | 0.10                   | 0.68                  |
| 2,983.00              | 1.10            | 43.42       | 2,982.85              | 11.44        | 14.15        | -11.33                  | 0.22                    | 0.00                   | 11.43                 |
| 3,072.00              | 1.36            | 59.24       | 3,071.83              | 12.60        | 15.64        | -12.48                  | 0.48                    | 0.29                   | 17.78                 |
| 3,162.00              | 1.67            | 60.91       | 3,161.80              | 13.79        | 17.71        | -13.65                  | 0.35                    | 0.34                   | 1.86                  |
| 3,252.00              | 2.11            | 36.56       | 3,251.75              | 15.75        | 19.84        | -15.60                  | 1.01                    | 0.49                   | -27.06                |
| 3,341.00              | 2.07            | 15.64       | 3,340.69              | 18.62        | 21.25        | -18.45                  | 0.85                    | -0.04                  | -23.51                |
| 3,431.00              | 1.63            | 7.82        | 3,430.65              | 21.45        | 21.86        | -21.28                  | 0.56                    | -0.49                  | -8.69                 |
| 3,521.00              | 1.27            | 13.18       | 3,520.62              | 23.69        | 22.26        | -23.51                  | 0.43                    | -0.40                  | 5.96                  |
| 3,610.00              | 1.01            | 22.32       | 3,609.60              | 25.38        | 22.79        | -25.20                  | 0.36                    | -0.29                  | 10.27                 |
| 3,700.00              | 1.01            | 20.65       | 3,699.59              | 26.85        | 23.37        | -26.67                  | 0.03                    | 0.00                   | -1.86                 |
| 3,790.00              | 0.66            | 26.36       | 3,789.58              | 28.06        | 23.88        | -27.87                  | 0.40                    | -0.39                  | 6.34                  |
| 3,879.00              | 0.62            | 40.78       | 3,878.57              | 28.88        | 24.42        | -28.69                  | 0.19                    | -0.04                  | 16.20                 |
| 3,969.00              | 0.75            | 51.94       | 3,968.56              | 29.61        | 25.20        | -29.42                  | 0.21                    | 0.14                   | 12.40                 |
| 4,058.00              | 0.66            | 75.14       | 4,057.56              | 30.11        | 26.16        | -29.90                  | 0.33                    | -0.10                  | 26.07                 |
| 4,148.00              | 0.97            | 82.53       | 4,147.55              | 30.34        | 27.41        | -30.12                  | 0.36                    | 0.34                   | 8.21                  |
| 4,238.00              | 1.23            | 94.39       | 4,237.53              | 30.36        | 29.13        | -30.13                  | 0.38                    | 0.29                   | 13.18                 |
| 4,327.00              | 1.71            | 97.38       | 4,326.50              | 30.12        | 31.40        | -29.87                  | 0.55                    | 0.54                   | 3.36                  |
| 4,417.00              | 1.85            | 92.46       | 4,416.46              | 29.88        | 34.18        | -29.61                  | 0.23                    | 0.16                   | -5.47                 |
| 4,507.00              | 1.14            | 61.43       | 4,506.43              | 30.25        | 36.42        | -29.96                  | 1.17                    | -0.79                  | -34.48                |
| 4,596.00              | 1.41            | 18.02       | 4,595.41              | 31.71        | 37.54        | -31.42                  | 1.10                    | 0.30                   | -48.78                |
| 4,686.00              | 1.19            | 17.05       | 4,685.39              | 33.66        | 38.15        | -33.36                  | 0.25                    | -0.24                  | -1.08                 |
| 4,776.00              | 1.14            | 19.51       | 4,775.37              | 35.40        | 38.73        | -35.09                  | 0.08                    | -0.06                  | 2.73                  |
| 4,865.00              | 1.27            | 10.19       | 4,864.35              | 37.20        | 39.20        | -36.89                  | 0.26                    | 0.15                   | -10.47                |
| 4,955.00              | 1.67            | 14.06       | 4,954.32              | 39.46        | 39.69        | -39.14                  | 0.46                    | 0.44                   | 4.30                  |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Aim MWD Surveys              | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Aim MWD Surveys              | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| 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) |  |
| 5,045.00              | 1.80            | 9.14        | 5,044.28              | 42.13        | 40.24        | -41.81                  | 0.22                    | 0.14                   | -5.47                 |  |
| 5,135.00              | 1.80            | 8.00        | 5,134.23              | 44.92        | 40.66        | -44.60                  | 0.04                    | 0.00                   | -1.27                 |  |
| 5,224.00              | 1.49            | 11.25       | 5,223.20              | 47.44        | 41.08        | -47.12                  | 0.36                    | -0.35                  | 3.65                  |  |
| 5,295.00              | 1.45            | 9.58        | 5,294.17              | 49.23        | 41.41        | -48.90                  | 0.08                    | -0.06                  | -2.35                 |  |
| 5,396.00              | 1.67            | 359.38      | 5,395.13              | 51.96        | 41.60        | -51.63                  | 0.35                    | 0.22                   | -10.10                |  |
| 5,485.00              | 1.76            | 359.56      | 5,484.10              | 54.63        | 41.58        | -54.30                  | 0.10                    | 0.10                   | 0.20                  |  |
| 5,575.00              | 2.46            | 336.27      | 5,574.04              | 57.78        | 40.79        | -57.45                  | 1.21                    | 0.78                   | -25.88                |  |
| 5,665.00              | 3.60            | 327.57      | 5,663.91              | 61.93        | 38.50        | -61.63                  | 1.36                    | 1.27                   | -9.67                 |  |
| 5,754.00              | 3.38            | 326.60      | 5,752.74              | 66.48        | 35.56        | -66.20                  | 0.26                    | -0.25                  | -1.09                 |  |
| 5,844.00              | 3.03            | 325.02      | 5,842.60              | 70.64        | 32.73        | -70.38                  | 0.40                    | -0.39                  | -1.76                 |  |
| 5,933.00              | 2.81            | 325.02      | 5,931.49              | 74.36        | 30.13        | -74.12                  | 0.25                    | -0.25                  | 0.00                  |  |
| 6,023.00              | 2.64            | 323.52      | 6,021.38              | 77.83        | 27.63        | -77.61                  | 0.20                    | -0.19                  | -1.67                 |  |
| 6,112.00              | 2.42            | 321.41      | 6,110.30              | 80.95        | 25.24        | -80.75                  | 0.27                    | -0.25                  | -2.37                 |  |
| 6,202.00              | 2.55            | 321.33      | 6,200.21              | 84.00        | 22.81        | -83.81                  | 0.14                    | 0.14                   | -0.09                 |  |
| 6,291.00              | 2.55            | 320.27      | 6,289.13              | 87.06        | 20.31        | -86.90                  | 0.05                    | 0.00                   | -1.19                 |  |
| 6,381.00              | 2.59            | 320.18      | 6,379.03              | 90.17        | 17.72        | -90.02                  | 0.04                    | 0.04                   | -0.10                 |  |
| 6,471.00              | 2.59            | 320.97      | 6,468.94              | 93.31        | 15.14        | -93.19                  | 0.04                    | 0.00                   | 0.88                  |  |
| 6,560.00              | 2.42            | 317.02      | 6,557.86              | 96.24        | 12.59        | -96.14                  | 0.27                    | -0.19                  | -4.44                 |  |
| 6,650.00              | 1.58            | 275.18      | 6,647.81              | 97.75        | 10.06        | -97.66                  | 1.81                    | -0.93                  | -46.49                |  |
| 6,739.00              | 1.85            | 259.36      | 6,736.77              | 97.59        | 7.43         | -97.53                  | 0.61                    | 0.30                   | -17.78                |  |
| 6,829.00              | 1.85            | 263.23      | 6,826.72              | 97.15        | 4.56         | -97.11                  | 0.14                    | 0.00                   | 4.30                  |  |
| 6,918.00              | 1.76            | 262.18      | 6,915.68              | 96.80        | 1.78         | -96.78                  | 0.11                    | -0.10                  | -1.18                 |  |
| 7,008.00              | 1.80            | 261.12      | 7,005.63              | 96.39        | -0.99        | -96.40                  | 0.06                    | 0.04                   | -1.18                 |  |
| 7,097.00              | 1.71            | 254.09      | 7,094.59              | 95.81        | -3.65        | -95.84                  | 0.26                    | -0.10                  | -7.90                 |  |
| 7,187.00              | 1.58            | 248.20      | 7,184.55              | 94.98        | -6.09        | -95.03                  | 0.24                    | -0.14                  | -6.54                 |  |
| 7,277.00              | 1.36            | 252.77      | 7,274.52              | 94.21        | -8.26        | -94.27                  | 0.28                    | -0.24                  | 5.08                  |  |
| 7,366.00              | 1.49            | 243.19      | 7,363.50              | 93.37        | -10.30       | -93.45                  | 0.30                    | 0.15                   | -10.76                |  |
| 7,456.00              | 1.54            | 237.74      | 7,453.47              | 92.20        | -12.37       | -92.29                  | 0.17                    | 0.06                   | -6.06                 |  |
| 7,546.00              | 1.54            | 235.63      | 7,543.43              | 90.87        | -14.39       | -90.98                  | 0.06                    | 0.00                   | -2.34                 |  |
| 7,636.00              | 1.63            | 237.39      | 7,633.40              | 89.50        | -16.47       | -89.62                  | 0.11                    | 0.10                   | 1.96                  |  |
| 7,725.00              | 1.49            | 238.36      | 7,722.37              | 88.21        | -18.52       | -88.35                  | 0.16                    | -0.16                  | 1.09                  |  |
| 7,814.00              | 0.62            | 306.38      | 7,811.35              | 87.89        | -19.89       | -88.04                  | 1.55                    | -0.98                  | 76.43                 |  |
| 7,904.00              | 0.57            | 326.77      | 7,901.35              | 88.55        | -20.53       | -88.71                  | 0.24                    | -0.06                  | 22.66                 |  |
| 7,993.00              | 0.62            | 299.97      | 7,990.34              | 89.16        | -21.19       | -89.32                  | 0.31                    | 0.06                   | -30.11                |  |
| 8,083.00              | 0.70            | 285.47      | 8,080.34              | 89.55        | -22.14       | -89.72                  | 0.21                    | 0.09                   | -16.11                |  |
| 8,173.00              | 0.53            | 271.05      | 8,170.33              | 89.70        | -23.09       | -89.88                  | 0.25                    | -0.19                  | -16.02                |  |
| 8,262.00              | 0.48            | 265.34      | 8,259.33              | 89.68        | -23.87       | -89.87                  | 0.08                    | -0.06                  | -6.42                 |  |
| 8,352.00              | 0.62            | 278.08      | 8,349.32              | 89.72        | -24.73       | -89.91                  | 0.21                    | 0.16                   | 14.16                 |  |
| 8,441.00              | 0.53            | 270.09      | 8,438.32              | 89.79        | -25.62       | -89.99                  | 0.14                    | -0.10                  | -8.98                 |  |
| 8,531.00              | 0.66            | 257.87      | 8,528.31              | 89.68        | -26.54       | -89.88                  | 0.20                    | 0.14                   | -13.58                |  |
| 8,620.00              | 0.66            | 256.55      | 8,617.31              | 89.45        | -27.54       | -89.67                  | 0.02                    | 0.00                   | -1.48                 |  |
| 8,710.00              | 0.79            | 248.11      | 8,707.30              | 89.10        | -28.62       | -89.32                  | 0.19                    | 0.14                   | -9.38                 |  |
| 8,799.00              | 0.92            | 232.82      | 8,796.29              | 88.44        | -29.76       | -88.67                  | 0.29                    | 0.15                   | -17.18                |  |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Aim MWD Surveys              | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Aim MWD Surveys              | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| 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) |
| 8,889.00              | 0.97            | 229.04      | 8,886.28              | 87.50        | -30.91       | -87.74                  | 0.09                    | 0.06                   | -4.20                 |
| 8,979.00              | 0.92            | 219.20      | 8,976.27              | 86.44        | -31.94       | -86.69                  | 0.19                    | -0.06                  | -10.93                |
| 9,068.00              | 0.88            | 194.59      | 9,065.26              | 85.23        | -32.56       | -85.48                  | 0.43                    | -0.04                  | -27.65                |
| 9,158.00              | 1.10            | 186.59      | 9,155.24              | 83.70        | -32.84       | -83.96                  | 0.29                    | 0.24                   | -8.89                 |
| 9,247.00              | 1.05            | 186.68      | 9,244.23              | 82.04        | -33.03       | -82.30                  | 0.06                    | -0.06                  | 0.10                  |
| 9,337.00              | 1.23            | 214.10      | 9,334.21              | 80.42        | -33.67       | -80.69                  | 0.63                    | 0.20                   | 30.47                 |
| 9,427.00              | 1.80            | 230.01      | 9,424.18              | 78.72        | -35.29       | -78.99                  | 0.78                    | 0.63                   | 17.68                 |
| 9,516.00              | 1.76            | 234.05      | 9,513.14              | 77.02        | -37.47       | -77.31                  | 0.15                    | -0.04                  | 4.54                  |
| 9,563.00              | 1.54            | 222.01      | 9,560.12              | 76.12        | -38.48       | -76.42                  | 0.87                    | -0.47                  | -25.62                |
| 9,616.00              | 1.50            | 210.85      | 9,613.10              | 75.00        | -39.31       | -75.30                  | 0.56                    | -0.08                  | -21.06                |
| 9,705.00              | 11.60           | 163.05      | 9,701.43              | 65.41        | -37.29       | -65.70                  | 11.97                   | 11.35                  | -53.71                |
| 9,795.00              | 25.50           | 166.05      | 9,786.55              | 37.82        | -29.95       | -38.05                  | 15.48                   | 15.44                  | 3.33                  |
| 9,907.00              | 35.40           | 167.75      | 9,882.98              | -17.42       | -17.22       | 17.28                   | 8.87                    | 8.84                   | 1.52                  |
| 9,997.00              | 43.20           | 174.75      | 9,952.61              | -73.68       | -8.85        | 73.61                   | 9.96                    | 8.67                   | 7.78                  |
| 10,087.00             | 56.00           | 165.65      | 10,010.89             | -140.86      | 3.28         | 140.88                  | 16.15                   | 14.22                  | -10.11                |
| 10,176.00             | 63.63           | 162.51      | 10,055.61             | -214.75      | 24.44        | 214.94                  | 9.10                    | 8.57                   | -3.53                 |
| 10,266.00             | 69.89           | 164.29      | 10,091.11             | -293.97      | 48.02        | 294.34                  | 7.19                    | 6.96                   | 1.98                  |
| 10,356.00             | 84.43           | 167.69      | 10,111.06             | -378.88      | 69.13        | 379.42                  | 16.57                   | 16.16                  | 3.78                  |
| 10,445.00             | 91.70           | 178.50      | 10,114.07             | -467.00      | 79.78        | 467.61                  | 14.62                   | 8.17                   | 12.15                 |
| 10,625.00             | 92.84           | 178.90      | 10,106.94             | -646.81      | 83.86        | 647.45                  | 0.67                    | 0.63                   | 0.22                  |
| 10,714.00             | 93.44           | 179.26      | 10,102.07             | -735.66      | 85.29        | 736.31                  | 0.79                    | 0.67                   | 0.40                  |
| 10,804.00             | 90.60           | 178.65      | 10,098.89             | -825.58      | 86.93        | 826.24                  | 3.23                    | -3.16                  | -0.68                 |
| 10,894.00             | 90.45           | 178.73      | 10,098.07             | -915.56      | 88.99        | 916.23                  | 0.19                    | -0.17                  | 0.09                  |
| 10,984.00             | 90.29           | 179.03      | 10,097.49             | -1,005.54    | 90.75        | 1,006.22                | 0.38                    | -0.18                  | 0.33                  |
| 11,105.00             | 90.50           | 178.95      | 10,096.65             | -1,126.51    | 92.88        | 1,127.21                | 0.19                    | 0.17                   | -0.07                 |
| 11,285.00             | 91.83           | 178.77      | 10,093.00             | -1,306.44    | 96.46        | 1,307.15                | 0.75                    | 0.74                   | -0.10                 |
| 11,374.00             | 92.23           | 178.52      | 10,089.84             | -1,395.36    | 98.57        | 1,396.09                | 0.53                    | 0.45                   | -0.28                 |
| 11,463.00             | 91.76           | 180.11      | 10,086.74             | -1,484.29    | 99.63        | 1,485.03                | 1.86                    | -0.53                  | 1.79                  |
| 11,553.00             | 92.43           | 180.20      | 10,083.45             | -1,574.23    | 99.38        | 1,574.96                | 0.75                    | 0.74                   | 0.10                  |
| 11,642.00             | 92.50           | 179.95      | 10,079.63             | -1,663.15    | 99.27        | 1,663.88                | 0.29                    | 0.08                   | -0.28                 |
| 11,732.00             | 92.20           | 179.31      | 10,075.94             | -1,753.07    | 99.85        | 1,753.80                | 0.78                    | -0.33                  | -0.71                 |
| 11,821.00             | 91.80           | 179.34      | 10,072.83             | -1,842.01    | 100.90       | 1,842.75                | 0.45                    | -0.45                  | 0.03                  |
| 11,911.00             | 89.01           | 178.83      | 10,072.19             | -1,931.99    | 102.33       | 1,932.73                | 3.15                    | -3.10                  | -0.57                 |
| 12,000.00             | 88.67           | 178.40      | 10,074.00             | -2,020.94    | 104.48       | 2,021.70                | 0.62                    | -0.38                  | -0.48                 |
| 12,090.00             | 88.94           | 178.32      | 10,075.87             | -2,110.89    | 107.06       | 2,111.66                | 0.31                    | 0.30                   | -0.09                 |
| 12,180.00             | 88.74           | 178.15      | 10,077.69             | -2,200.83    | 109.83       | 2,201.62                | 0.29                    | -0.22                  | -0.19                 |
| 12,269.00             | 87.33           | 177.35      | 10,080.75             | -2,289.70    | 113.32       | 2,290.52                | 1.82                    | -1.58                  | -0.90                 |
| 12,359.00             | 86.39           | 177.59      | 10,085.68             | -2,379.48    | 117.29       | 2,380.33                | 1.08                    | -1.04                  | 0.27                  |
| 12,449.00             | 87.96           | 178.35      | 10,090.11             | -2,469.31    | 120.47       | 2,470.18                | 1.94                    | 1.74                   | 0.84                  |
| 12,538.00             | 89.15           | 179.13      | 10,092.36             | -2,558.26    | 122.43       | 2,559.14                | 1.60                    | 1.34                   | 0.88                  |
| 12,628.00             | 89.58           | 179.93      | 10,093.35             | -2,648.25    | 123.17       | 2,649.13                | 1.01                    | 0.48                   | 0.89                  |
| 12,717.00             | 89.51           | 179.53      | 10,094.06             | -2,737.24    | 123.59       | 2,738.13                | 0.46                    | -0.08                  | -0.45                 |
| 12,807.00             | 90.59           | 178.76      | 10,093.98             | -2,827.23    | 124.93       | 2,828.13                | 1.47                    | 1.20                   | -0.86                 |
| 12,897.00             | 89.44           | 178.70      | 10,093.96             | -2,917.21    | 126.93       | 2,918.11                | 1.28                    | -1.28                  | -0.07                 |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Aim MWD Surveys              | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Aim MWD Surveys              | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| 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) |
| 12,986.00             | 89.95           | 179.88      | 10,094.43             | -3,006.20    | 128.03       | 3,007.11                | 1.44                    | 0.57                   | 1.33                  |
| 13,076.00             | 90.12           | 181.50      | 10,094.38             | -3,096.19    | 126.94       | 3,097.09                | 1.81                    | 0.19                   | 1.80                  |
| 13,165.00             | 91.20           | 181.25      | 10,093.35             | -3,185.16    | 124.81       | 3,186.04                | 1.25                    | 1.21                   | -0.28                 |
| 13,255.00             | 90.85           | 181.76      | 10,091.74             | -3,275.11    | 122.45       | 3,275.97                | 0.69                    | -0.39                  | 0.57                  |
| 13,344.00             | 88.91           | 181.10      | 10,091.93             | -3,364.08    | 120.22       | 3,364.92                | 2.30                    | -2.18                  | -0.74                 |
| 13,434.00             | 89.08           | 181.25      | 10,093.51             | -3,454.04    | 118.38       | 3,454.87                | 0.25                    | 0.19                   | 0.17                  |
| 13,524.00             | 87.80           | 180.74      | 10,095.96             | -3,543.99    | 116.82       | 3,544.80                | 1.53                    | -1.42                  | -0.57                 |
| 13,613.00             | 88.10           | 180.32      | 10,099.14             | -3,632.93    | 115.99       | 3,633.73                | 0.58                    | 0.34                   | -0.47                 |
| 13,703.00             | 87.67           | 179.07      | 10,102.46             | -3,722.87    | 116.47       | 3,723.67                | 1.47                    | -0.48                  | -1.39                 |
| 13,792.00             | 87.83           | 178.92      | 10,105.96             | -3,811.79    | 118.03       | 3,812.60                | 0.25                    | 0.18                   | -0.17                 |
| 13,882.00             | 87.97           | 178.21      | 10,109.25             | -3,901.70    | 120.28       | 3,902.52                | 0.80                    | 0.16                   | -0.79                 |
| 13,971.00             | 90.29           | 179.49      | 10,110.61             | -3,990.66    | 122.07       | 3,991.50                | 2.98                    | 2.61                   | 1.44                  |
| 14,061.00             | 90.72           | 179.90      | 10,109.81             | -4,080.66    | 122.55       | 4,081.49                | 0.66                    | 0.48                   | 0.46                  |
| 14,151.00             | 90.45           | 180.09      | 10,108.89             | -4,170.65    | 122.56       | 4,171.49                | 0.37                    | -0.30                  | 0.21                  |
| 14,240.00             | 88.57           | 179.59      | 10,109.65             | -4,259.64    | 122.81       | 4,260.48                | 2.19                    | -2.11                  | -0.56                 |
| 14,330.00             | 89.28           | 179.26      | 10,111.34             | -4,349.62    | 123.71       | 4,350.46                | 0.87                    | 0.79                   | -0.37                 |
| 14,419.00             | 90.22           | 180.44      | 10,111.73             | -4,438.62    | 123.94       | 4,439.46                | 1.70                    | 1.06                   | 1.33                  |
| 14,508.00             | 89.24           | 181.18      | 10,112.15             | -4,527.61    | 122.68       | 4,528.43                | 1.38                    | -1.10                  | 0.83                  |
| 14,598.00             | 90.12           | 180.96      | 10,112.65             | -4,617.59    | 121.00       | 4,618.40                | 1.01                    | 0.98                   | -0.24                 |
| 14,659.00             | 90.33           | 180.35      | 10,112.41             | -4,678.58    | 120.31       | 4,679.38                | 1.06                    | 0.34                   | -1.00                 |
| 14,748.00             | 88.66           | 180.35      | 10,113.20             | -4,767.58    | 119.76       | 4,768.37                | 1.88                    | -1.88                  | 0.00                  |
| 14,838.00             | 87.60           | 179.29      | 10,116.14             | -4,857.53    | 120.04       | 4,858.32                | 1.67                    | -1.18                  | -1.18                 |
| 14,928.00             | 87.56           | 179.38      | 10,119.94             | -4,947.44    | 121.09       | 4,948.24                | 0.11                    | -0.04                  | 0.10                  |
| 15,017.00             | 90.46           | 182.63      | 10,121.47             | -5,036.39    | 119.53       | 5,037.17                | 4.89                    | 3.26                   | 3.65                  |
| 15,107.00             | 90.37           | 181.58      | 10,120.82             | -5,126.33    | 116.22       | 5,127.08                | 1.17                    | -0.10                  | -1.17                 |
| 15,197.00             | 92.40           | 180.96      | 10,118.65             | -5,216.27    | 114.23       | 5,217.01                | 2.36                    | 2.26                   | -0.69                 |
| 15,286.00             | 93.89           | 181.05      | 10,113.76             | -5,305.12    | 112.67       | 5,305.84                | 1.68                    | 1.67                   | 0.10                  |
| 15,376.00             | 93.93           | 180.61      | 10,107.63             | -5,394.90    | 111.37       | 5,395.61                | 0.49                    | 0.04                   | -0.49                 |
| 15,466.00             | 93.80           | 180.52      | 10,101.56             | -5,484.69    | 110.48       | 5,485.39                | 0.18                    | -0.14                  | -0.10                 |
| 15,555.00             | 92.70           | 179.91      | 10,096.51             | -5,573.55    | 110.15       | 5,574.24                | 1.41                    | -1.24                  | -0.69                 |
| 15,645.00             | 91.96           | 179.65      | 10,092.86             | -5,663.47    | 110.49       | 5,664.17                | 0.87                    | -0.82                  | -0.29                 |
| 15,734.00             | 91.34           | 178.68      | 10,090.29             | -5,752.42    | 111.79       | 5,753.13                | 1.29                    | -0.70                  | -1.09                 |
| 15,824.00             | 90.95           | 177.98      | 10,088.49             | -5,842.37    | 114.41       | 5,843.09                | 0.89                    | -0.43                  | -0.78                 |
| 15,914.00             | 90.55           | 177.27      | 10,087.32             | -5,932.28    | 118.14       | 5,933.03                | 0.91                    | -0.44                  | -0.79                 |
| 16,003.00             | 89.80           | 178.68      | 10,087.04             | -6,021.22    | 121.29       | 6,021.99                | 1.79                    | -0.84                  | 1.58                  |
| 16,093.00             | 88.31           | 177.80      | 10,088.53             | -6,111.17    | 124.05       | 6,111.95                | 1.92                    | -1.66                  | -0.98                 |
| 16,182.00             | 94.59           | 180.96      | 10,086.28             | -6,200.08    | 125.02       | 6,200.87                | 7.90                    | 7.06                   | 3.55                  |
| 16,272.00             | 95.38           | 181.49      | 10,078.46             | -6,289.71    | 123.10       | 6,290.49                | 1.06                    | 0.88                   | 0.59                  |
| 16,361.00             | 93.05           | 181.76      | 10,071.92             | -6,378.43    | 120.58       | 6,379.18                | 2.64                    | -2.62                  | 0.30                  |
| 16,451.00             | 91.16           | 183.78      | 10,068.61             | -6,468.26    | 116.24       | 6,468.97                | 3.07                    | -2.10                  | 2.24                  |
| 16,540.00             | 89.80           | 183.69      | 10,067.86             | -6,557.06    | 110.44       | 6,557.73                | 1.53                    | -1.53                  | -0.10                 |
| 16,630.00             | 90.64           | 183.95      | 10,067.52             | -6,646.86    | 104.44       | 6,647.48                | 0.98                    | 0.93                   | 0.29                  |
| 16,719.00             | 88.75           | 183.07      | 10,067.99             | -6,735.69    | 98.99        | 6,736.26                | 2.34                    | -2.12                  | -0.99                 |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Aim MWD Surveys              | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Aim MWD Surveys              | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| 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) |
| 16,809.00             | 86.90           | 183.07      | 10,071.41             | -6,825.49    | 94.18        | 6,826.02                | 2.06                    | -2.06                  | 0.00                  |
| 16,898.00             | 86.51           | 180.96      | 10,076.52             | -6,914.28    | 91.05        | 6,914.78                | 2.41                    | -0.44                  | -2.37                 |
| 16,988.00             | 85.85           | 178.15      | 10,082.52             | -7,004.07    | 91.75        | 7,004.57                | 3.20                    | -0.73                  | -3.12                 |
| 17,078.00             | 88.22           | 178.06      | 10,087.18             | -7,093.89    | 94.72        | 7,094.42                | 2.64                    | 2.63                   | -0.10                 |
| 17,168.00             | 89.01           | 177.01      | 10,089.35             | -7,183.78    | 98.59        | 7,184.34                | 1.46                    | 0.88                   | -1.17                 |
| 17,257.00             | 87.60           | 176.83      | 10,091.98             | -7,272.61    | 103.37       | 7,273.20                | 1.60                    | -1.58                  | -0.20                 |
| 17,347.00             | 88.13           | 178.50      | 10,095.34             | -7,362.47    | 107.03       | 7,363.09                | 1.95                    | 0.59                   | 1.86                  |
| 17,436.00             | 87.47           | 178.94      | 10,098.75             | -7,451.38    | 109.02       | 7,452.01                | 0.89                    | -0.74                  | 0.49                  |
| 17,526.00             | 88.44           | 180.61      | 10,101.97             | -7,541.32    | 109.37       | 7,541.95                | 2.14                    | 1.08                   | 1.86                  |
| 17,615.00             | 90.29           | 180.00      | 10,102.95             | -7,630.31    | 108.90       | 7,630.93                | 2.19                    | 2.08                   | -0.69                 |
| 17,705.00             | 90.46           | 179.47      | 10,102.36             | -7,720.31    | 109.32       | 7,720.93                | 0.62                    | 0.19                   | -0.59                 |
| 17,794.00             | 90.11           | 177.71      | 10,101.92             | -7,809.28    | 111.51       | 7,809.91                | 2.02                    | -0.39                  | -1.98                 |
| 17,884.00             | 91.30           | 178.77      | 10,100.81             | -7,899.22    | 114.27       | 7,899.88                | 1.77                    | 1.32                   | 1.18                  |
| 17,974.00             | 92.00           | 177.89      | 10,098.22             | -7,989.15    | 116.89       | 7,989.82                | 1.25                    | 0.78                   | -0.98                 |
| 18,063.00             | 92.84           | 178.77      | 10,094.46             | -8,078.03    | 119.48       | 8,078.72                | 1.37                    | 0.94                   | 0.99                  |
| 18,152.00             | 92.57           | 181.40      | 10,090.26             | -8,166.92    | 119.35       | 8,167.61                | 2.97                    | -0.30                  | 2.96                  |
| 18,242.00             | 89.63           | 181.32      | 10,088.53             | -8,256.87    | 117.22       | 8,257.53                | 3.27                    | -3.27                  | -0.09                 |
| 18,332.00             | 91.03           | 181.67      | 10,088.02             | -8,346.83    | 114.87       | 8,347.48                | 1.60                    | 1.56                   | 0.39                  |
| 18,421.00             | 87.25           | 178.86      | 10,089.35             | -8,435.80    | 114.46       | 8,436.44                | 5.29                    | -4.25                  | -3.16                 |
| 18,510.00             | 86.81           | 178.59      | 10,093.96             | -8,524.66    | 116.43       | 8,525.31                | 0.58                    | -0.49                  | -0.30                 |
| 18,600.00             | 87.38           | 178.06      | 10,098.52             | -8,614.50    | 119.06       | 8,615.17                | 0.86                    | 0.63                   | -0.59                 |
| 18,690.00             | 87.16           | 176.75      | 10,102.81             | -8,704.31    | 123.13       | 8,705.00                | 1.47                    | -0.24                  | -1.46                 |
| 18,779.00             | 87.34           | 178.59      | 10,107.08             | -8,793.13    | 126.75       | 8,793.85                | 2.07                    | 0.20                   | 2.07                  |
| 18,869.00             | 87.91           | 179.82      | 10,110.81             | -8,883.04    | 127.99       | 8,883.77                | 1.51                    | 0.63                   | 1.37                  |
| 18,959.00             | 90.99           | 179.65      | 10,111.67             | -8,973.02    | 128.41       | 8,973.75                | 3.43                    | 3.42                   | -0.19                 |
| 19,049.00             | 92.44           | 179.29      | 10,108.98             | -9,062.97    | 129.24       | 9,063.71                | 1.66                    | 1.61                   | -0.40                 |
| 19,138.00             | 93.45           | 178.59      | 10,104.41             | -9,151.84    | 130.88       | 9,152.59                | 1.38                    | 1.13                   | -0.79                 |
| 19,228.00             | 93.49           | 178.86      | 10,098.96             | -9,241.65    | 132.88       | 9,242.41                | 0.30                    | 0.04                   | 0.30                  |
| 19,318.00             | 93.45           | 181.40      | 10,093.51             | -9,331.48    | 132.68       | 9,332.23                | 2.82                    | -0.04                  | 2.82                  |
| 19,407.00             | 89.05           | 182.28      | 10,091.57             | -9,420.39    | 129.82       | 9,421.12                | 5.04                    | -4.94                  | 0.99                  |
| 19,497.00             | 90.24           | 181.76      | 10,092.13             | -9,510.33    | 126.65       | 9,511.03                | 1.44                    | 1.32                   | -0.58                 |
| 19,586.00             | 89.58           | 181.05      | 10,092.27             | -9,599.30    | 124.47       | 9,599.98                | 1.09                    | -0.74                  | -0.80                 |
| 19,676.00             | 87.69           | 180.17      | 10,094.41             | -9,689.27    | 123.51       | 9,689.94                | 2.32                    | -2.10                  | -0.98                 |
| 19,765.00             | 87.56           | 180.00      | 10,098.10             | -9,778.19    | 123.38       | 9,778.86                | 0.24                    | -0.15                  | -0.19                 |
| 19,855.00             | 87.34           | 179.65      | 10,102.11             | -9,868.10    | 123.65       | 9,868.77                | 0.46                    | -0.24                  | -0.39                 |
| 19,944.00             | 87.87           | 178.06      | 10,105.83             | -9,957.00    | 125.43       | 9,957.68                | 1.88                    | 0.60                   | -1.79                 |
| 20,034.00             | 88.57           | 176.75      | 10,108.62             | -10,046.86   | 129.50       | 10,047.57               | 1.65                    | 0.78                   | -1.46                 |
| 20,124.00             | 89.32           | 176.92      | 10,110.28             | -10,136.71   | 134.47       | 10,137.45               | 0.85                    | 0.83                   | 0.19                  |
| 20,213.00             | 88.35           | 177.01      | 10,112.09             | -10,225.57   | 139.18       | 10,226.34               | 1.09                    | -1.09                  | 0.10                  |
| Last Aim MWD Survey   |                 |             |                       |              |              |                         |                         |                        |                       |
| 20,316.00             | 88.35           | 177.01      | 10,115.05             | -10,328.38   | 144.55       | 10,329.20               | 0.00                    | 0.00                   | 0.00                  |
| Projection to BHL     |                 |             |                       |              |              |                         |                         |                        |                       |

## Aim Directional Services, LLC

## Survey Report

|                  |                              |                                     |                                         |
|------------------|------------------------------|-------------------------------------|-----------------------------------------|
| <b>Company:</b>  | Advance Energy Partners, LLC | <b>Local Co-ordinate Reference:</b> | Site Merchant State Unit 301H           |
| <b>Project:</b>  | Lea County, New Mexico       | <b>TVD Reference:</b>               | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Site:</b>     | Merchant State Unit 301H     | <b>MD Reference:</b>                | 3685'GL+25.5'KB @ 3710.50usft (H&P 389) |
| <b>Well:</b>     | #301H                        | <b>North Reference:</b>             | Grid                                    |
| <b>Wellbore:</b> | Aim MWD Surveys              | <b>Survey Calculation Method:</b>   | Minimum Curvature                       |
| <b>Design:</b>   | Aim MWD Surveys              | <b>Database:</b>                    | EDM 5000.1 Aim Database                 |

| Design Annotations          |                             |                   |                 |                      |  |
|-----------------------------|-----------------------------|-------------------|-----------------|----------------------|--|
| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                 |                      |  |
|                             |                             | +N/-S<br>(usft)   | +E/-W<br>(usft) | Comment              |  |
| 235.00                      | 234.99                      | 0.05              | 1.43            | First Aim MWD Survey |  |
| 20,213.00                   | 10,112.09                   | -10,225.57        | 139.18          | Last Aim MWD Survey  |  |
| 20,316.00                   | 10,115.05                   | -10,328.38        | 144.55          | Projection to BHL    |  |



# BHA Reports

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## Merchant State Unit 301H (WT-20-001)

2020-01-13 to 2020-02-11

Lea, New Mexico, US (32.44, -103.55)

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|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

**BHA #1 - 17.5" SURFACE (Directional)**

| Motor Details               |          | Date/Depth/Distances  | Hours            |
|-----------------------------|----------|-----------------------|------------------|
| Size(in)                    | 8.00     | Date In               | 2020-01-13 05:00 |
| Lobe/Stage                  | 7/8, 4.0 | Depth In (ft)         | 145.00           |
| Bend Angle                  | 1.50     | Date Out              | 2020-01-13 19:00 |
| Speed (rev/gal)             | 0.17     | Depth Out (ft)        | 1756.00          |
| Wear Pad OD (in)            | 8.200    | Distance Slid (ft)    | 0.00             |
| Incident                    | No       | Distance Rotated (ft) | 1611.00          |
| <b>Motor Results</b>        |          | % Distance Sliding    | 0.00%            |
| Average Total ROP (ft/h)    | 210.13   | % Distance Rotating   | 100.00%          |
| Average Slide ROP (ft/h)    | 0.00     |                       |                  |
| Average Rotating ROP (ft/h) | 210.13   |                       |                  |

|                       |         |                      |
|-----------------------|---------|----------------------|
| <b>Bit Details</b>    |         | <b>BHA Objective</b> |
| OD (in)               | 17.500  | Drill Surface        |
| Vendor                | BAKER   |                      |
| S/N                   | 5293469 |                      |
| Nozzles               | 9-12's  |                      |
| Total Flow Area (in²) | 0.994   |                      |

| Bit Details           |         | POOH Reason/Notes        |
|-----------------------|---------|--------------------------|
| OD (in)               | 17.500  |                          |
| Vendor                | BAKER   |                          |
| S/N                   | 5293469 |                          |
| Nozzles               | 9-12's  |                          |
| Total Flow Area (in²) | 0.994   |                          |
|                       |         | Total Depth/Casing Point |

|                            |                |
|----------------------------|----------------|
| <b>Motor RPM</b>           | 93.00 - 142.00 |
| <b>Surface RPM</b>         | 50.00 - 50.00  |
| <b>Rotating WOB (klbs)</b> | 20.00 - 20.00  |
| <b>Sliding WOB (klbs)</b>  | 0.00 - 0.00    |
| <b>Temp (°F)</b>           | 87.00 - 87.00  |

| Items (Directional)                                                                                                                                          |        |                   |                |                |         |         |              |          |                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| Description                                                                                                                                                  | Vendor | SN#               | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
| <b>Bit</b><br>Description: DP606S, Style: PDC,<br>Gauge Length (in): 3.00, Size (in):<br>17.50                                                               | BAKER  | 5293469           | 6 5/8" Reg Pin |                |         | 17.500  |              | 1.50     | 1.50           |
| <b>Mud Motor</b><br>Description: 7/8, 4.0 FXD 1.5° w/ 12"<br>NBS, Size (in): 8.00, Bend Angle (°):<br>1.5, Rotor Lobe: 7, Stator Lobe: 8,<br>Stator Stage: 4 | AIM    | 800-40-005<br>AIM | 6 5/8" Reg Box | 6 5/8" Reg Box |         | 8.000   |              | 30.09    | 31.59          |
| <b>Stabilizer</b><br>Description: 17" IB STAB                                                                                                                | GTI    | GT801168          | 6 5/8" Reg Box | 6 5/8" Reg Pin | 2.813   | 8.020   |              | 8.02     | 39.61          |
| <b>UBHO Sub</b><br>Description: 8" UBHO SUB, Type: NM                                                                                                        | GTI    | GT 8066774        | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.500   | 8.050   |              | 3.45     | 43.06          |
| <b>Drill Collar</b><br>Description: 8" MWD NMDC, Style:<br>Slick Drill, Type: NM                                                                             | GTI    | GT 80-30-285      | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.313   | 8.050   |              | 31.13    | 74.19          |
| <b>Drill Collar</b><br>Description: 8" NMDC, Style: Slick<br>Drill, Type: NM                                                                                 | GTI    | GT 80-30-208      | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.313   | 8.010   |              | 31.02    | 105.21         |
| <b>Crossover Sub</b><br>Description: X-O SUB, Type: Steel                                                                                                    | BD     | BD 15381          | EverDrlg54 Box | 6 5/8" Reg Pin | 2.875   | 8.250   |              | 3.90     | 109.11         |
| <b>HWDP</b><br>Description: 15 STANDS 5.5" HWDP ,<br>Style: Slick                                                                                            | BD     |                   | EverDrlg54 Box | EverDrlg54 Pin | 3.875   | 6.688   |              | 1413.66  | 1522.77        |





|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

**BHA #2 - Intermediate 12.25" (Directional)**

| Motor Details               |          | Date/Depth/Distances  | Hours            |
|-----------------------------|----------|-----------------------|------------------|
| Size(in)                    | 8.00     | Date In               | 2020-01-19 00:30 |
| Lobe/Stage                  | 7/8, 5.9 | Depth In (ft)         | 1756.00          |
| Bend Angle                  | 1.50     | Date Out              | 2020-01-20 06:00 |
| Speed (rev/gal)             | 0.16     | Depth Out (ft)        | 5365.00          |
| Wear Pad OD (in)            | 8.375    | Distance Slid (ft)    | 73.00            |
| Incident                    | No       | Distance Rotated (ft) | 3536.00          |
| <b>Motor Results</b>        |          | % Distance Sliding    | 2.02%            |
| Average Total ROP (ft/h)    | 250.34   | % Distance Rotating   | 97.98%           |
| Average Slide ROP (ft/h)    | 87.60    |                       |                  |
| Average Rotating ROP (ft/h) | 260.32   |                       |                  |

|                            |
|----------------------------|
| <b>BHA Objective</b>       |
| Drill Intermediate Section |

| Bit Details           |         | POOH Reason/Notes                            |
|-----------------------|---------|----------------------------------------------|
| OD (in)               | 12.250  |                                              |
| Vendor                | ULTERRA |                                              |
| S/N                   | 51306   | Total Depth/Casing Point: POOH to run casing |
| Nozzles               | 6-12's  |                                              |
| Total Flow Area (in²) | 0.663   |                                              |

| MWD                    |     | Incident Notes |
|------------------------|-----|----------------|
| Max Downhole Temp (°F) | N/A | Directional:   |
|                        |     | MWD:           |

| Bit Distances                                                        |  | Comments                                                                                   |
|----------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------|
| Bit To Bend (Bit to Bend): 6.00 ft, Survey (Bit to Survey): 70.00 ft |  | Directional: Flow Rate: 400-900, Max Diff: 1390 psi, Max Torque: 21,870 ft-lbs, BIT Runs:0 |

| Mud Properties |       | Parameters                |                   |
|----------------|-------|---------------------------|-------------------|
| Type           | Brine | Flow Rate (gpm)           | 800.00 - 850.00   |
| WT             | 9.90  | On Bottom Pressure (psi)  | 2550.00 - 3500.00 |
| VIS            | 38.00 | Off Bottom Pressure (psi) | 2000.00 - 2650.00 |
| PV             | 0.00  | Stall Pressure (psi)      | 0.00              |
| YP             | 0.00  | Stalls                    | 0                 |
|                |       | NPT                       | 0.0               |
|                |       | Motor RPM                 | 130.00 - 160.00   |
|                |       | Surface RPM               | 40.00 - 50.00     |
|                |       | Rotating WOB (klbs)       | 30.00 - 40.00     |
|                |       | Sliding WOB (klbs)        | 20.00 - 25.00     |
|                |       | Temp (°F)                 | 80.00 - 130.00    |

| Items (Directional)                                                                                                                                   |         |              |                |                |         |         |              |          |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| Description                                                                                                                                           | Vendor  | SN#          | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
| <b>Bit</b><br>Description: SPL616, Style: PDC, Gauge Length (in): 3.00, Size (in): 12.25                                                              | ULTERRA | 51306        | 6 5/8" Reg Pin |                |         | 12.250  |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 7/8, 5.9 FXD 1.5° w/ 12" NBS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.9 | BUTCH'S | BDT 800-019  | 6 5/8" Reg Box | 6 5/8" Reg Box |         | 8.000   |              | 37.57    | 38.57          |
| <b>Stabilizer</b><br>Description: 12" IB STAB                                                                                                         | GTI     | GT801176     | 6 5/8" Reg Box | 6 5/8" Reg Pin | 2.875   | 8.010   |              | 8.02     | 46.59          |
| <b>UBHO Sub</b><br>Description: 8" UBHO SUB, Type: NM                                                                                                 | GTI     | GT 8066774   | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.500   | 8.050   |              | 3.45     | 50.04          |
| <b>Drill Collar</b><br>Description: 8" MWD NMDC, Style: Slick Drill, Type: NM                                                                         | GTI     | GT 80-30-285 | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.313   | 8.050   |              | 31.13    | 81.17          |
| <b>Drill Collar</b><br>Description: 8" NMDC, Style: Slick Drill, Type: NM                                                                             | GTI     | GT 80-30-208 | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.313   | 8.010   |              | 31.02    | 112.19         |
| <b>Crossover Sub</b><br>Description: X-O SUB, Type: Steel                                                                                             | BD      | BD 15381     | EverDrg54 Box  | 6 5/8" Reg Pin | 2.875   | 8.250   |              | 3.90     | 116.09         |
| <b>HWDP</b><br>Description: 15 Stands of 5.5" HWDP, Style: Slick                                                                                      | Rig     |              | EverDrg54 Box  | EverDrg54 Pin  | 3.875   | 6.688   |              | 1413.66  | 1529.75        |





|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

**BHA #3 - BHA #3 (8.5" Intermediate) (Directional)**

| Motor Details               |          | Date/Depth/Distances  | Hours            |
|-----------------------------|----------|-----------------------|------------------|
| Size(in)                    | 7.00     | Date In               | 2020-01-28 08:00 |
| Lobe/Stage                  | 7/8, 8.5 | Depth In (ft)         | 5365.00          |
| Bend Angle                  | 1.50     | Date Out              | 2020-01-30 01:30 |
| Speed (rev/gal)             | 0.26     | Depth Out (ft)        | 9630.00          |
| Wear Pad OD (in)            | 7.125    | Distance Slid (ft)    | 47.00            |
| Incident                    | No       | Distance Rotated (ft) | 4218.00          |
| <b>Motor Results</b>        |          | % Distance Sliding    | 1.10%            |
| Average Total ROP (ft/h)    | 168.91   | % Distance Rotating   | 98.90%           |
| Average Slide ROP (ft/h)    | 62.67    |                       |                  |
| Average Rotating ROP (ft/h) | 172.16   |                       |                  |

|                                |
|--------------------------------|
| <b>BHA Objective</b>           |
| Drill Intermediate down to KOP |

| Bit Details           |                 | POOH Reason/Notes |
|-----------------------|-----------------|-------------------|
| OD (in)               | 8.500           |                   |
| Vendor                | Ulterra         |                   |
| S/N                   | 49305           |                   |
| Nozzles               | 3 x 16 / 3 x 15 |                   |
| Total Flow Area (in²) | 1.106           |                   |

| MWD                    |     | Incident Notes |
|------------------------|-----|----------------|
| Max Downhole Temp (°F) | N/A | Directional:   |
|                        |     | MWD:           |

| Bit Distances              |                                                                           | Comments                                                                                                                                                                                     |
|----------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bit To Bend (Bit to Bend): | 5.25 ft, Survey (Bit to Survey): 67.00 ft, Gamma (Bit to Gamma): 52.00 ft | Directional: 1.5° FBH 7/8 8.5 Stg Mtr. w/ 8.25" Stab / Flow Rate: 350-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs / BIT: Ulterra RPS616 SN: 49305 Jets: 3x15, 3x16 TFA: 1.106 Runs: 2 |

| Mud Properties |       | Parameters                |
|----------------|-------|---------------------------|
| Type           | Brine | Flow Rate (gpm)           |
| WT             | 9.40  | On Bottom Pressure (psi)  |
| VIS            | 0.00  | Off Bottom Pressure (psi) |
| PV             | 0.00  | Stall Pressure (psi)      |
| YP             | 0.00  | Stalls                    |
|                |       | NPT                       |

| Items (Directional)                                                                                                                                             |               |            |                |                |         |         |              |          |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| Description                                                                                                                                                     | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
| <b>Bit</b><br>Description: RPS616, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50                                                                         | Ulterra       | 49305      | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.25     | 1.25           |
| <b>Mud Motor</b><br>Description: 1.5° FBH 7/8 8.5 Stg Mtr w/ 8.25" Stab, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5 | AIM           | 700-40-024 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.23    | 37.48          |
| <b>Stabilizer</b><br>Description: 8.25" NM Stabilizer                                                                                                           | Gator         | DR43605    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.813   | 6.688   |              | 5.19     | 42.67          |
| <b>UBHO Sub</b><br>Description: UBHO Sub, Type: NM                                                                                                              | AIM           | 675-124    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.875   | 6.750   |              | 2.11     | 44.78          |
| <b>Drill Collar</b><br>Description: NMDC (MWD tool), Style: Slick Drill, Type: NM                                                                               | DTI           | DR33250    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.750   |              | 28.76    | 73.54          |
| <b>Drill Collar</b><br>Description: NMDC (Spacer), Style: Slick Drill, Type: NM                                                                                 | DTI           | DR29426    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.188   | 6.750   |              | 28.73    | 102.27         |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                    | Black Diamond | BD12360    | EverDrg54 Box  | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 105.82         |
| <b>HWDP</b><br>Description: (15 Stands) 5.5" HWDP, Style: Slick                                                                                                 | RIG           |            | EverDrg54 Box  | EverDrg54 Pin  | 4.000   | 5.500   |              | 1413.66  | 1519.48        |





|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

**BHA #4 - BHA #4 (Curve Assembly) (Directional)**

| Motor Details               |          | Date/Depth/Distances  | Hours            |
|-----------------------------|----------|-----------------------|------------------|
| Size(in)                    | 6.75     | Date In               | 2020-01-30 01:30 |
| Lobe/Stage                  | 7/8, 5.0 | Depth In (ft)         | 9630.00          |
| Bend Angle                  | 2.12     | Date Out              | 2020-01-30 14:45 |
| Speed (rev/gal)             | 0.28     | Depth Out (ft)        | 9916.00          |
| Wear Pad OD (in)            | 7.000    | Distance Slid (ft)    | 231.00           |
| Incident                    | No       | Distance Rotated (ft) | 55.00            |
| <b>Motor Results</b>        |          | % Distance Sliding    | 80.77%           |
| Average Total ROP (ft/h)    | 92.76    | % Distance Rotating   | 19.23%           |
| Average Slide ROP (ft/h)    | 89.42    |                       |                  |
| Average Rotating ROP (ft/h) | 110.00   |                       |                  |

|                    |         |                      |
|--------------------|---------|----------------------|
| <b>Bit Details</b> |         | <b>BHA Objective</b> |
| OD (in)            | 8.500   | Drill Curve 12°/100' |
| Vendor             | Ulterra |                      |

|                               |        |
|-------------------------------|--------|
| <b>POOH Reason/Notes</b>      |        |
| <b>S/N</b>                    | 51718  |
| <b>Nozzles</b>                | 6 x 16 |
| <b>Total Flow Area (in²)</b>  | 1.178  |
| <b>MWD</b>                    |        |
| <b>Max Downhole Temp (°F)</b> | N/A    |

|                                                                                           |  |
|-------------------------------------------------------------------------------------------|--|
| <b>Incident Notes</b>                                                                     |  |
| Directional: Once on Surface motor drained as expected with .25" squat. Bit was cored out |  |
| MWD:                                                                                      |  |

|                                                                                                                                                                              |                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bit Distances</b>                                                                                                                                                         | <b>Comments</b>                                                                                                                                                                            |
| <b>Bit To Bend (Bit to Bend):</b> 4.13 ft, <b>Survey (Bit to Survey):</b> 47.00 ft, <b>Gamma (Bit to Gamma):</b> 41.60 ft, <b>Resistivity (Bit to Resistivity):</b> 33.43 ft | Directional: 2.12° FBH 7/8 5.0 Stg Mtr. w/ Slick Sleeve / Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,480 ft-lbs / BIT: Ulterra CF611 SN: 51718 Jets: 6 x 16 TFA: 1.178 Runs: 2 |

|                                  |                   |
|----------------------------------|-------------------|
| <b>Mud Properties</b>            | <b>Parameters</b> |
| Type                             | Brine             |
| WT                               | 9.50              |
| VIS                              | 28.00             |
| PV                               | 2.00              |
| YP                               | 3.00              |
| <b>Flow Rate (gpm)</b>           | 600.00 - 600.00   |
| <b>On Bottom Pressure (psi)</b>  | 2300.00 - 2600.00 |
| <b>Off Bottom Pressure (psi)</b> | 1900.00 - 2000.00 |
| <b>Stall Pressure (psi)</b>      | 1099.97           |
| <b>Stalls</b>                    | 2                 |
| <b>NPT</b>                       | 0.0               |
| <b>Motor RPM</b>                 | 173.00 - 173.00   |
| <b>Surface RPM</b>               | 30.00 - 30.00     |
| <b>Rotating WOB (klbs)</b>       | 35.00 - 35.00     |
| <b>Sliding WOB (klbs)</b>        | 20.00 - 40.00     |
| <b>Temp (°F)</b>                 | 125.00 - 134.00   |

| Items (Directional)                                                                                                                                               |               |         |                |                |         |         |              |          |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------|----------------|----------------|---------|---------|--------------|----------|----------------|
| Description                                                                                                                                                       | Vendor        | SN#     | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
| <b>Bit</b><br>Description: CF611, Style: PDC, Gauge Length (in): 2.00, Size (in): 8.50                                                                            | Ulterra       | 51718   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 2.12° FBH 7/8 5.0 Stg Mtr w/ Slick Sleeve, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5 | AIM           | 650-019 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 6.750   |              | 26.01    | 27.01          |
| <b>Drill Collar</b><br>Description: Sensor, Style: Flex Drill, Type: NM                                                                                           | APS           | 609     | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 30.76    | 57.77          |
| <b>Drill Collar</b><br>Description: Power Section, Style: Flex Drill, Type: NM                                                                                    | APS           | 65954-3 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 34.17    | 91.94          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                      | Black Diamond | BD12360 | EverDrg54 Box  | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 95.49          |





|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

**BHA #5 - BHA #5 (Curve Assembly) (Directional)**

| Motor Details               |          | Date/Depth/Distances         | Hours                            |
|-----------------------------|----------|------------------------------|----------------------------------|
| Size(in)                    | 6.75     | Date In 2020-01-30 14:45     | Downhole Hours 25.25             |
| Lobe/Stage                  | 7/8, 5.0 | Depth In (ft) 9916.00        | Drilling/Circulating Hours 13.83 |
| Bend Angle                  | 2.12     | Date Out 2020-01-31 16:00    | Drilling Hours 12.42             |
| Speed (rev/gal)             | 0.28     | Depth Out (ft) 11082.00      | Circulating Hours 1.42           |
| Wear Pad OD (in)            | 7.000    | Distance Slid (ft) 356.00    | Sliding Hours 3.92               |
| Incident                    | No       | Distance Rotated (ft) 810.00 | Rotating Hours 8.50              |
| <b>Motor Results</b>        |          | % Distance Sliding 30.53%    | % Hours Sliding 31.54%           |
| Average Total ROP (ft/h)    | 93.91    | % Distance Rotating 69.47%   | % Hours Rotating 68.46%          |
| Average Slide ROP (ft/h)    | 90.89    | <b>BHA Objective</b>         |                                  |
| Average Rotating ROP (ft/h) | 95.29    | Drill Curve                  |                                  |

| Bit Details           |         | POOH Reason/Notes                                         |  |
|-----------------------|---------|-----------------------------------------------------------|--|
| OD (in)               | 8.500   | Change Bottom Hole Assembly: Pooh to P/U Lateral Assembly |  |
| Vendor                | Ulterra |                                                           |  |
| S/N                   | 51467   |                                                           |  |
| Nozzles               | 6 x 16  |                                                           |  |
| Total Flow Area (in²) | 1.178   |                                                           |  |

| MWD                    |     | Incident Notes                                                                                                      |
|------------------------|-----|---------------------------------------------------------------------------------------------------------------------|
| Max Downhole Temp (°F) | N/A | Directional: Motor drained with a grinding noise in the bearing housing. Motor had significant wear on slick sleeve |
|                        |     | MWD:                                                                                                                |

| Bit Distances                                                                                                                                    |  | Comments                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bit To Bend (Bit to Bend): 4.13 ft, Survey (Bit to Survey): 47.00 ft, Gamma (Bit to Gamma): 41.60 ft, Resistivity (Bit to Resistivity): 33.43 ft |  | Directional: 2.12° FBH 7/8 5.0 Stg Mtr. w/ Slick Sleeve / Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,480 ft-lbs / BIT: Ulterra CF611 SN: 51467 Jets: 6 x 16 TFA: 1.178 Runs: 1 |

| Mud Properties |       | Parameters                                  |                                   |
|----------------|-------|---------------------------------------------|-----------------------------------|
| Type           | Brine | Flow Rate (gpm) 600.00 - 600.00             | Motor RPM 173.00 - 173.00         |
| WT             | 9.50  | On Bottom Pressure (psi) 2600.00 - 2600.00  | Surface RPM 30.00 - 40.00         |
| VIS            | 28.00 | Off Bottom Pressure (psi) 1900.00 - 2000.00 | Rotating WOB (klbs) 35.00 - 35.00 |
| PV             | 2.00  | Stall Pressure (psi) 0.00                   | Sliding WOB (klbs) 42.00 - 42.00  |
| YP             | 3.00  | Stalls 0                                    | Temp (°F) 135.00 - 145.00         |
|                |       | NPT 0.0                                     |                                   |

| Items (Directional)                                                                                                                                               |               |         |                |                |         |         |              |          |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------|----------------|----------------|---------|---------|--------------|----------|----------------|
| Description                                                                                                                                                       | Vendor        | SN#     | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
| <b>Bit</b><br>Description: CF611, Style: PDC, Gauge Length (in): 2.00, Size (in): 8.50                                                                            | Ulterra       | 51467   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 2.12° FBH 7/8 5.0 Stg Mtr w/ Slick Sleeve, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5 | AIM           | 650-016 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 6.750   |              | 26.11    | 27.11          |
| <b>Drill Collar</b><br>Description: Sensor, Style: Flex Drill, Type: NM                                                                                           | APS           | 609     | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 30.76    | 57.87          |
| <b>Drill Collar</b><br>Description: Power Section, Style: Flex Drill, Type: NM                                                                                    | APS           | 65954-3 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 34.17    | 92.04          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                      | Black Diamond | BD12360 | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 95.59          |





|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

**BHA #6 - BHA #6 (Lateral Assembly) (Directional)**

| Motor Details               |          | Date/Depth/Distances  | Hours            |
|-----------------------------|----------|-----------------------|------------------|
| Size(in)                    | 7.00     | Date In               | 2020-01-31 16:00 |
| Lobe/Stage                  | 7/8, 8.5 | Depth In (ft)         | 11082.00         |
| Bend Angle                  | 1.75     | Date Out              | 2020-02-04 17:30 |
| Speed (rev/gal)             | 0.26     | Depth Out (ft)        | 14704.00         |
| Wear Pad OD (in)            | 7.250    | Distance Slid (ft)    | 424.00           |
| Incident                    | No       | Distance Rotated (ft) | 3198.00          |
| <b>Motor Results</b>        |          | % Distance Sliding    | 11.71%           |
| Average Total ROP (ft/h)    | 49.67    | % Distance Rotating   | 88.29%           |
| Average Slide ROP (ft/h)    | 30.84    |                       |                  |
| Average Rotating ROP (ft/h) | 54.05    |                       |                  |

|                    |       |                      |
|--------------------|-------|----------------------|
| <b>Bit Details</b> |       | <b>BHA Objective</b> |
| OD (in)            | 8.500 | Drill Lateral to TD  |
| Vendor             | Baker |                      |

|                       |         |                                                           |
|-----------------------|---------|-----------------------------------------------------------|
| S/N                   | 5305211 | <b>POOH Reason/Notes</b>                                  |
| Nozzles               | 6 x 22  | Penetration Rate: Pooh due to ROP and to Replace Res Tool |
| Total Flow Area (in²) | 2.227   |                                                           |

|                        |     |                       |
|------------------------|-----|-----------------------|
| <b>MWD</b>             |     | <b>Incident Notes</b> |
| Max Downhole Temp (°F) | N/A | Directional:          |
|                        |     | MWD:                  |

|                                                                                                                                                  |                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bit Distances</b>                                                                                                                             | <b>Comments</b>                                                                                                                                                                           |
| Bit To Bend (Bit to Bend): 5.28 ft, Survey (Bit to Survey): 57.00 ft, Gamma (Bit to Gamma): 51.00 ft, Resistivity (Bit to Resistivity): 44.00 ft | Directional: 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 350-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs / BIT: Baker Type: DD506TWX SN: 5305211 Jets: 6 x 22 TFA: 2.227 Runs: 1 |

|                           |                   |
|---------------------------|-------------------|
| <b>Mud Properties</b>     | <b>Parameters</b> |
| Type                      | Oil Based         |
| WT                        | 9.30              |
| VIS                       | 56.00             |
| PV                        | 0.00              |
| YP                        | 0.00              |
| Flow Rate (gpm)           | 550.00 - 710.00   |
| On Bottom Pressure (psi)  | 2600.00 - 4000.00 |
| Off Bottom Pressure (psi) | 1900.00 - 3700.00 |
| Stall Pressure (psi)      | 0.00              |
| Stalls                    | 0                 |
| NPT                       | 0.0               |
| Motor RPM                 | 173.00 - 173.00   |
| Surface RPM               | 40.00 - 50.00     |
| Rotating WOB (klbs)       | 35.00 - 45.00     |
| Sliding WOB (klbs)        | 42.00 - 50.00     |
| Temp (°F)                 | 135.00 - 145.00   |

| Items (Directional)                                                                                                                                       |               |            |                |                |         |         |              |          |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| Description                                                                                                                                               | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
| <b>Bit</b><br>Description: DD506TWX, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50                                                                 | Baker         | 5305211    | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5 | AIM           | 700-40-014 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.23    | 37.23          |
| <b>Drill Collar</b><br>Description: Sensor, Style: Flex Drill, Type: NM                                                                                   | APS           | 609        | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 30.76    | 67.99          |
| <b>Drill Collar</b><br>Description: Power Section, Style: Flex Drill, Type: NM                                                                            | APS           | 65638-2    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 33.56    | 101.55         |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                              | Black Diamond | BD12360    | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 105.10         |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe, Style: Slick                                                                               | RIG           |            | EverDrlg54 Box | EverDrlg54 Pin | 4.000   | 5.500   |              | 2688.68  | 2793.78        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x ED54 Pin), Type: Steel                                                                        | BD            | BD15190    | 4 1/2" IF Box  | EverDrlg54 Pin | 3.500   | 6.750   |              | 3.61     | 2797.39        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                 | NOV           | 675-0078   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.07    | 2822.46        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2 IF Pin), Type: Steel                                                                        | BD            | BD15114    | EverDrlg54 Box | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2826.08        |





|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

**BHA #7 - BHA #7 (Lateral Assembly) (Directional)**

| Motor Details                     | Date/Depth/Distances          | Hours                            |
|-----------------------------------|-------------------------------|----------------------------------|
| Size(in) 7.00                     | Date In 2020-02-04 20:30      | Downhole Hours 129.25            |
| Lobe/Stage 7/8, 8.5               | Depth In (ft) 14704.00        | Drilling/Circulating Hours 87.58 |
| Bend Angle 1.75                   | Date Out 2020-02-10 05:45     | Drilling Hours 83.75             |
| Speed (rev/gal) 0.26              | Depth Out (ft) 20316.00       | Circulating Hours 3.83           |
| Wear Pad OD (in) 7.187            | Distance Slid (ft) 713.00     | Sliding Hours 21.92              |
| Incident No                       | Distance Rotated (ft) 4899.00 | Rotating Hours 61.83             |
| <b>Motor Results</b>              | % Distance Sliding 12.70%     | % Hours Sliding 26.17%           |
| Average Total ROP (ft/h) 67.01    | % Distance Rotating 87.30%    | % Hours Rotating 73.83%          |
| Average Slide ROP (ft/h) 32.53    |                               |                                  |
| Average Rotating ROP (ft/h) 79.23 |                               |                                  |

| Bit Details        | BHA Objective |
|--------------------|---------------|
| OD (in) 8.500      | Drill Lateral |
| Vendor Halliburton |               |

| POOH Reason/Notes             |
|-------------------------------|
| Total Depth/Casing Point: N/A |
| S/N 13418529                  |
| Nozzles 6 x 22                |
| Total Flow Area (in²) 2.227   |

| MWD                        | Incident Notes   |
|----------------------------|------------------|
| Max Downhole Temp (°F) N/A | Directional: N/A |
|                            | MWD:             |

| Bit Distances                                                                                                                                    | Comments                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bit To Bend (Bit to Bend): 5.32 ft, Survey (Bit to Survey): 71.00 ft, Gamma (Bit to Gamma): 48.00 ft, Resistivity (Bit to Resistivity): 58.00 ft | Directional: Motor: 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 450-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs BIT: Halliburton Type: GT65D SN: 13418529 Jets: 6 x 22 TFA: 2.227 Runs: 1 |

| Mud Properties | Parameters                                  |
|----------------|---------------------------------------------|
| Type Oil Based | Flow Rate (gpm) 700.00 - 710.00             |
| WT 9.50        | Motor RPM 60.00 - 40.00                     |
| VIS 50.00      | On Bottom Pressure (psi) 3500.00 - 5000.00  |
| PV 0.00        | Surface RPM 40.00 - 40.00                   |
| YP 0.00        | Off Bottom Pressure (psi) 3000.00 - 4500.00 |
|                | Rotating WOB (klbs) 45.00 - 45.00           |
|                | Sliding WOB (klbs) 50.00 - 50.00            |
|                | Temp (°F) 150.00 - 155.00                   |
|                | Stalls 0                                    |
|                | NPT 0.0                                     |

| Items (Directional)                                                                                                                                       |               |            |                |                |         |         |              |          |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| Description                                                                                                                                               | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
| <b>Bit</b><br>Description: GT65D, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50                                                                    | Halliburton   | 13418529   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.25     | 1.25           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5 | AIM           | 700-40-032 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.24    | 37.49          |
| <b>Drill Collar</b><br>Description: Res Collar, Style: Slick Drill, Type: NM                                                                              | BT            | HPR6501010 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 31.30    | 68.79          |
| <b>Drill Collar</b><br>Description: Battery Sub, Style: Slick Drill, Type: NM                                                                             | DTI           | DR15750    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 17.48    | 86.27          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                              | Black Diamond | BD12360    | EverDrg54 Box  | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 89.82          |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe, Style: Slick                                                                               | RIG           |            | EverDrg54 Box  | EverDrg54 Pin  | 4.000   | 5.500   |              | 2688.68  | 2778.50        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x ED54 Pin), Type: Steel                                                                        | BD            | BD15190    | 4 1/2" IF Box  | EverDrg54 Pin  | 3.500   | 6.750   |              | 3.61     | 2782.11        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                 | NOV           | 675-0063   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.43    | 2807.54        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2 IF Pin), Type: Steel                                                                        | BD            | BD15114    | EverDrg54 Box  | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2811.16        |





# Mud Motor Reports

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## Merchant State Unit 301H (WT-20-001)

2020-01-13 to 2020-02-11

Lea, New Mexico, US (32.44, -103.55)

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|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

**Mud Motor Report - BHA 1 (17.5" SURFACE)**

| Motor Details                                                                                         |                | Date/Depth/Distances  | Hours            |
|-------------------------------------------------------------------------------------------------------|----------------|-----------------------|------------------|
| S/N                                                                                                   | 800-40-005 AIM | Date In               | 2020-01-13 05:00 |
| Size (in)                                                                                             | 8.0            | Depth In (ft)         | 145.00           |
| Lobe/Stage                                                                                            | 7/8, 4.00      | Date Out              | 2020-01-13 19:00 |
| Bend Angle                                                                                            | 1.5            | Depth Out (ft)        | 1756.00          |
| Speed (rev/gal)                                                                                       | 0.17           | Total Drilled (ft)    | 1611.00          |
| Wear Pad OD (in)                                                                                      | 8.200          | Distance Slid (ft)    | 0.00             |
| Manufacturer                                                                                          | N/A            | Distance Rotated (ft) | 1611.00          |
| <b>Motor Results</b>                                                                                  |                | % Distance Sliding    | 0.00%            |
| Motor Incident                                                                                        | No             | % Distance Rotating   | 100.00%          |
| Average Total ROP (ft/h)                                                                              | 210.13         |                       |                  |
| Average Slide ROP (ft/h)                                                                              | 0.00           |                       |                  |
| Average Rotating ROP (ft/h)                                                                           | 210.13         |                       |                  |
| <b>Bit Details</b>                                                                                    |                |                       |                  |
| OD (in)                                                                                               | 17.500         |                       |                  |
| Vendor                                                                                                | BAKER          |                       |                  |
| S/N                                                                                                   | 5293469        |                       |                  |
| Nozzles                                                                                               | 9-12's         |                       |                  |
| Total Flow Area (in <sup>2</sup> )                                                                    | 0.994          |                       |                  |
| Bit Type                                                                                              | PDC            |                       |                  |
| <b>Bit Distances</b>                                                                                  |                |                       |                  |
| N/A                                                                                                   |                |                       |                  |
| <b>Mud Properties</b>                                                                                 |                |                       |                  |
| Type                                                                                                  | Water          |                       |                  |
| WT                                                                                                    | 9.00           |                       |                  |
| VIS                                                                                                   | 0.00           |                       |                  |
| PV                                                                                                    | 0.00           |                       |                  |
| YP                                                                                                    | 0.00           |                       |                  |
| <b>POOH Reason/Notes</b>                                                                              |                |                       |                  |
| Total Depth/Casing Point                                                                              |                |                       |                  |
| <b>Incident Notes</b>                                                                                 |                |                       |                  |
| Directional:                                                                                          |                |                       |                  |
| MWD:                                                                                                  |                |                       |                  |
| <b>Comments</b>                                                                                       |                |                       |                  |
| Directional: Directional: Flow Rate: 400-900, Max Diff: 900 psi, Max Torque: 14,930 ft-lbs, BIT Runs: |                |                       |                  |
| MWD:                                                                                                  |                |                       |                  |



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

**Mud Motor Report - BHA 2 (Intermediate 12.25")**

| Motor Details               |                                                                               | Date/Depth/Distances  | Hours            |
|-----------------------------|-------------------------------------------------------------------------------|-----------------------|------------------|
| S/N                         | BDT 800-019                                                                   | Date In               | 2020-01-19 00:30 |
| Size (in)                   | 8.0                                                                           | Depth In (ft)         | 1756.00          |
| Lobe/Stage                  | 7/8, 5.90                                                                     | Date Out              | 2020-01-20 06:00 |
| Bend Angle                  | 1.5                                                                           | Depth Out (ft)        | 5365.00          |
| Speed (rev/gal)             | 0.16                                                                          | Total Drilled (ft)    | 3609.00          |
| Wear Pad OD (in)            | 8.375                                                                         | Distance Slid (ft)    | 73.00            |
| Manufacturer                | N/A                                                                           | Distance Rotated (ft) | 3536.00          |
| <b>Motor Results</b>        |                                                                               | % Distance Sliding    | 2.02%            |
| Motor Incident              | No                                                                            | % Distance Rotating   | 97.98%           |
| Average Total ROP (ft/h)    | 250.34                                                                        |                       |                  |
| Average Slide ROP (ft/h)    | 87.60                                                                         |                       |                  |
| Average Rotating ROP (ft/h) | 260.32                                                                        |                       |                  |
| <b>Bit Details</b>          |                                                                               |                       |                  |
| OD (in)                     | 12.250                                                                        |                       |                  |
| Vendor                      | ULTERRA                                                                       |                       |                  |
| S/N                         | 51306                                                                         |                       |                  |
| Nozzles                     | 6-12's                                                                        |                       |                  |
| Total Flow Area (in²)       | 0.663                                                                         |                       |                  |
| Bit Type                    | PDC                                                                           |                       |                  |
| <b>Bit Distances</b>        |                                                                               |                       |                  |
| Bend (Bit to Bend):         | 6.00 ft, Survey (Bit to Survey):                                              |                       |                  |
|                             | 70.00 ft                                                                      |                       |                  |
| <b>Mud Properties</b>       |                                                                               |                       |                  |
| Type                        | Brine                                                                         |                       |                  |
| WT                          | 9.90                                                                          |                       |                  |
| VIS                         | 38.00                                                                         |                       |                  |
| PV                          | 0.00                                                                          |                       |                  |
| YP                          | 0.00                                                                          |                       |                  |
| <b>POOH Reason/Notes</b>    |                                                                               |                       |                  |
| Total Depth/Casing Point:   | POOH to run casing                                                            |                       |                  |
| <b>Incident Notes</b>       |                                                                               |                       |                  |
| Directional:                |                                                                               |                       |                  |
| MWD:                        |                                                                               |                       |                  |
| <b>Comments</b>             |                                                                               |                       |                  |
| Directional:                | Flow Rate: 400-900, Max Diff: 1390 psi, Max Torque: 21,870 ft-lbs, BIT Runs:0 |                       |                  |
| MWD:                        |                                                                               |                       |                  |



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

**Mud Motor Report - BHA 3 (BHA #3 (8.5" Intermediate))**

| Motor Details                                                                                                                                                                                 |                 | Date/Depth/Distances      | Hours             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------|-------------------|
| S/N                                                                                                                                                                                           | 700-40-024      | Date In                   | 2020-01-28 08:00  |
| Size (in)                                                                                                                                                                                     | 7.0             | Depth In (ft)             | 5365.00           |
| Lobe/Stage                                                                                                                                                                                    | 7/8, 8.50       | Date Out                  | 2020-01-30 01:30  |
| Bend Angle                                                                                                                                                                                    | 1.5             | Depth Out (ft)            | 9630.00           |
| Speed (rev/gal)                                                                                                                                                                               | 0.26            | Total Drilled (ft)        | 4265.00           |
| Wear Pad OD (in)                                                                                                                                                                              | 7.125           | Distance Slid (ft)        | 47.00             |
| Manufacturer                                                                                                                                                                                  | N/A             | Distance Rotated (ft)     | 4218.00           |
| <b>Motor Results</b>                                                                                                                                                                          |                 | % Distance Sliding        | 1.10%             |
| Motor Incident                                                                                                                                                                                | No              | % Distance Rotating       | 98.90%            |
| Average Total ROP (ft/h)                                                                                                                                                                      | 168.91          |                           |                   |
| Average Slide ROP (ft/h)                                                                                                                                                                      | 62.67           |                           |                   |
| Average Rotating ROP (ft/h)                                                                                                                                                                   | 172.16          |                           |                   |
| <b>Bit Details</b>                                                                                                                                                                            |                 |                           |                   |
| OD (in)                                                                                                                                                                                       | 8.500           | On Bottom Pressure (psi)  | 2400.00 - 3300.00 |
| Vendor                                                                                                                                                                                        | Ultrerra        | Off Bottom Pressure (psi) | 2031.00 - 2800.00 |
| S/N                                                                                                                                                                                           | 49305           | NPT                       | 0.0               |
| Nozzles                                                                                                                                                                                       | 3 x 16 / 3 x 15 |                           |                   |
| Total Flow Area (in²)                                                                                                                                                                         | 1.106           |                           |                   |
| Bit Type                                                                                                                                                                                      | PDC             |                           |                   |
| <b>Bit Distances</b>                                                                                                                                                                          |                 |                           |                   |
| Bend (Bit to Bend): 5.25 ft, Survey (Bit to Survey): 67.00 ft, Gamma (Bit to Gamma): 52.00 ft                                                                                                 |                 |                           |                   |
| <b>Mud Properties</b>                                                                                                                                                                         |                 |                           |                   |
| Type                                                                                                                                                                                          | Brine           |                           |                   |
| WT                                                                                                                                                                                            | 9.40            |                           |                   |
| VIS                                                                                                                                                                                           | 0.00            |                           |                   |
| PV                                                                                                                                                                                            | 0.00            |                           |                   |
| YP                                                                                                                                                                                            | 0.00            |                           |                   |
| <b>POOH Reason/Notes</b>                                                                                                                                                                      |                 |                           |                   |
| Total Depth/Casing Point: Reached KOP                                                                                                                                                         |                 |                           |                   |
| <b>Incident Notes</b>                                                                                                                                                                         |                 |                           |                   |
| Directional:                                                                                                                                                                                  |                 |                           |                   |
| MWD:                                                                                                                                                                                          |                 |                           |                   |
| <b>Comments</b>                                                                                                                                                                               |                 |                           |                   |
| Directional: 1.5° FBH 7/8 8.5 Stg Mtr. w/ 8.25" Stab / Flow Rate: 350-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs / BIT: Ultrerra RPS616 SN: 49305 Jets: 3x15, 3x16 TFA: 1.106 Runs: 2 |                 |                           |                   |
| MWD:                                                                                                                                                                                          |                 |                           |                   |



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

**Mud Motor Report - BHA 4 (BHA #4 (Curve Assembly))**

| Motor Details                                                                                                                            |           | Date/Depth/Distances      |                   | Hours                      |                 |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------------|-------------------|----------------------------|-----------------|
| S/N                                                                                                                                      | 650-019   | Date In                   | 2020-01-30 01:30  | Downhole Hours             | 13.25           |
| Size (in)                                                                                                                                | 6.75      | Depth In (ft)             | 9630.00           | Drilling/Circulating Hours | 4.50            |
| Lobe/Stage                                                                                                                               | 7/8, 5.00 | Date Out                  | 2020-01-30 14:45  |                            |                 |
| Bend Angle                                                                                                                               | 2.12      | Depth Out (ft)            | 9916.00           | Circulating Hours          | 1.42            |
| Speed (rev/gal)                                                                                                                          | 0.28      | Total Drilled (ft)        | 286.00            | Drilling Hours             | 3.08            |
| Wear Pad OD (in)                                                                                                                         | 7.000     | Distance Slid (ft)        | 231.00            | Sliding Hours              | 2.58            |
| Manufacturer                                                                                                                             | N/A       | Distance Rotated (ft)     | 55.00             | Rotating Hours             | 0.50            |
| Motor Results                                                                                                                            |           | % Distance Sliding        | 80.77%            | % Hours Rotating           | 16.22%          |
| Motor Incident                                                                                                                           | No        | % Distance Rotating       | 19.23%            | % Hours Sliding            | 83.78%          |
| Average Total ROP (ft/h)                                                                                                                 | 92.76     | BHA Parameters            |                   |                            |                 |
| Average Slide ROP (ft/h)                                                                                                                 | 89.42     | Flow Rate (gpm)           | 600.00 - 600.00   | Motor RPM                  | 173.00 - 173.00 |
| Average Rotating ROP (ft/h)                                                                                                              | 110.00    | Stalls                    | 2                 | Surface RPM                | 30.00 - 30.00   |
| Bit Details                                                                                                                              |           | Stall Pressure (psi)      | 1099.97           | Rotating WOB (klbs)        | 35.00 - 35.00   |
| OD (in)                                                                                                                                  | 8.500     | On Bottom Pressure (psi)  | 2300.00 - 2600.00 | Sliding WOB (klbs)         | 20.00 - 40.00   |
| Vendor                                                                                                                                   | Ultrerra  | Off Bottom Pressure (psi) | 1900.00 - 2000.00 | Temp (°F)                  | 125.00 - 134.00 |
| S/N                                                                                                                                      | 51718     | NPT                       | 0.0               |                            |                 |
| Nozzles                                                                                                                                  | 6 x 16    | BHA Objective             |                   |                            |                 |
| Total Flow Area (in²)                                                                                                                    | 1.178     | Drill Curve 12°/100'      |                   |                            |                 |
| Bit Type                                                                                                                                 | PDC       |                           |                   |                            |                 |
| Bit Distances                                                                                                                            |           |                           |                   |                            |                 |
| Bend (Bit to Bend): 4.13 ft, Survey (Bit to Survey): 47.00 ft, Gamma (Bit to Gamma): 41.60 ft, Resistivity (Bit to Resistivty): 33.43 ft |           |                           |                   |                            |                 |
| Mud Properties                                                                                                                           |           |                           |                   |                            |                 |
| Type                                                                                                                                     | Brine     |                           |                   |                            |                 |
| WT                                                                                                                                       | 9.50      |                           |                   |                            |                 |
| VIS                                                                                                                                      | 28.00     |                           |                   |                            |                 |
| PV                                                                                                                                       | 2.00      |                           |                   |                            |                 |
| YP                                                                                                                                       | 3.00      |                           |                   |                            |                 |

**POOH Reason/Notes**

**Penetration Rate:** ROP and Diff dropped off while sliding in the lateral. Picked up off bottom to ensure the pipe was free and not hung up. Pipe was free, went back to bottom and would not drill nor generate any differential pressure. Call was made to POOH and check motor & bit

**Incident Notes**

Directional: Once on Surface motor drained as expected with .25" squat. Bit was cored out

MWD:

**Comments**

Directional: 2.12° FBH 7/8 5.0 Stg Mtr. w/ Slick Sleeve / Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,480 ft-lbs / BIT: Ultrerra CF611 SN: 51718 Jets: 6 x 16 TFA: 1.178 Runs: 2

MWD:



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

**Mud Motor Report - BHA 5 (BHA #5 (Curve Assembly))**

| Motor Details                                                                                                                             |           | Date/Depth/Distances      | Hours             |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------------|-------------------|
| S/N                                                                                                                                       | 650-016   | Date In                   | 2020-01-30 14:45  |
| Size (in)                                                                                                                                 | 6.75      | Depth In (ft)             | 9916.00           |
| Lobe/Stage                                                                                                                                | 7/8, 5.00 | Date Out                  | 2020-01-31 16:00  |
| Bend Angle                                                                                                                                | 2.12      | Depth Out (ft)            | 11082.00          |
| Speed (rev/gal)                                                                                                                           | 0.28      | Total Drilled (ft)        | 1166.00           |
| Wear Pad OD (in)                                                                                                                          | 7.000     | Distance Slid (ft)        | 356.00            |
| Manufacturer                                                                                                                              | N/A       | Distance Rotated (ft)     | 810.00            |
| <b>Motor Results</b>                                                                                                                      |           | % Distance Sliding        | 30.53%            |
| Motor Incident                                                                                                                            | No        | % Distance Rotating       | 69.47%            |
| Average Total ROP (ft/h)                                                                                                                  | 93.91     |                           |                   |
| Average Slide ROP (ft/h)                                                                                                                  | 90.89     |                           |                   |
| Average Rotating ROP (ft/h)                                                                                                               | 95.29     |                           |                   |
| <b>Bit Details</b>                                                                                                                        |           |                           |                   |
| OD (in)                                                                                                                                   | 8.500     | On Bottom Pressure (psi)  | 2600.00 - 2600.00 |
| Vendor                                                                                                                                    | Ultrerra  | Off Bottom Pressure (psi) | 1900.00 - 2000.00 |
| S/N                                                                                                                                       | 51467     | NPT                       | 0.0               |
| Nozzles                                                                                                                                   | 6 x 16    |                           |                   |
| Total Flow Area (in <sup>2</sup> )                                                                                                        | 1.178     |                           |                   |
| Bit Type                                                                                                                                  | PDC       |                           |                   |
| <b>Bit Distances</b>                                                                                                                      |           |                           |                   |
| Bend (Bit to Bend): 4.13 ft, Survey (Bit to Survey): 47.00 ft, Gamma (Bit to Gamma): 41.60 ft, Resistivity (Bit to Resistivity): 33.43 ft |           |                           |                   |
| <b>Mud Properties</b>                                                                                                                     |           |                           |                   |
| Type                                                                                                                                      | Brine     |                           |                   |
| WT                                                                                                                                        | 9.50      |                           |                   |
| VIS                                                                                                                                       | 28.00     |                           |                   |
| PV                                                                                                                                        | 2.00      |                           |                   |
| YP                                                                                                                                        | 3.00      |                           |                   |

**POOH Reason/Notes**

Change Bottom Hole Assembly: Pooh to P/U Lateral Assembly

**Incident Notes**

Directional: Motor drained with a grinding noise in the bearing housing. Motor had significant wear on slick sleeve

MWD:

**Comments**Directional: 2.12° FBH 7/8 5.0 Stg Mtr. w/ Slick Sleeve / Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,480 ft-lbs / BIT: Ultrerra CF611 SN: 51467 Jets: 6 x 16  
TFA: 1.178 Runs: 1

MWD:

|                                                                                   |                                 |                                                     |                      |                                                          |
|-----------------------------------------------------------------------------------|---------------------------------|-----------------------------------------------------|----------------------|----------------------------------------------------------|
|  | <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          |                      | <b>Rig Name</b><br>H&P #389                              |
|                                                                                   | <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        |                      | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
|                                                                                   | <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea | <b>Company Man</b>                                       |
|                                                                                   |                                 |                                                     |                      |                                                          |

**Mud Motor Report - BHA 6 (BHA #6 (Lateral Assembly))**

| Motor Details                                                                                                                                                                             |            | Date/Depth/Distances  |                  | Hours                      |        |                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------|------------------|----------------------------|--------|-------------------|
| S/N                                                                                                                                                                                       | 700-40-014 | Date In               | 2020-01-31 16:00 | Downhole Hours             | 97.50  |                   |
| Size (in)                                                                                                                                                                                 | 7.0        | Depth In (ft)         | 11082.00         | Drilling/Circulating Hours | 74.92  |                   |
| Lobe/Stage                                                                                                                                                                                | 7/8, 8.50  | Date Out              | 2020-02-04 17:30 |                            |        |                   |
| Bend Angle                                                                                                                                                                                | 1.75       | Depth Out (ft)        | 14704.00         | Circulating Hours          | 2.00   |                   |
| Speed (rev/gal)                                                                                                                                                                           | 0.26       | Total Drilled (ft)    | 3622.00          | Drilling Hours             | 72.92  |                   |
| Wear Pad OD (in)                                                                                                                                                                          | 7.250      | Distance Slid (ft)    | 424.00           | Sliding Hours              | 13.75  |                   |
| Manufacturer                                                                                                                                                                              | N/A        | Distance Rotated (ft) | 3198.00          | Rotating Hours             | 59.17  |                   |
| Motor Results                                                                                                                                                                             |            | % Distance Sliding    | 11.71%           | % Hours Rotating           | 81.14% |                   |
| Motor Incident                                                                                                                                                                            |            | % Distance Rotating   | 88.29%           | % Hours Sliding            | 18.86% |                   |
| Average Total ROP (ft/h)                                                                                                                                                                  |            | 49.67                 |                  | BHA Parameters             |        |                   |
| Average Slide ROP (ft/h)                                                                                                                                                                  |            | 30.84                 |                  | Flow Rate (gpm)            |        | 550.00 - 710.00   |
| Average Rotating ROP (ft/h)                                                                                                                                                               |            | 54.05                 |                  | Stalls                     |        | 0                 |
| Bit Details                                                                                                                                                                               |            |                       |                  | Stall Pressure (psi)       |        | 0.00              |
| OD (in)                                                                                                                                                                                   |            | 8.500                 |                  | On Bottom Pressure (psi)   |        | 2600.00 - 4000.00 |
| Vendor                                                                                                                                                                                    |            | Baker                 |                  | Off Bottom Pressure (psi)  |        | 1900.00 - 3700.00 |
| S/N                                                                                                                                                                                       |            | 5305211               |                  | NPT                        |        | 0.0               |
| Nozzles                                                                                                                                                                                   |            | 6 x 22                |                  | BHA Objective              |        |                   |
| Total Flow Area (in²)                                                                                                                                                                     |            | 2.227                 |                  | Drill Lateral to TD        |        |                   |
| Bit Type                                                                                                                                                                                  |            | PDC                   |                  |                            |        |                   |
| Bit Distances                                                                                                                                                                             |            |                       |                  |                            |        |                   |
| Bend (Bit to Bend): 5.28 ft, Survey (Bit to Survey): 57.00 ft, Gamma (Bit to Gamma): 51.00 ft, Resistivity (Bit to Resistivity): 44.00 ft                                                 |            |                       |                  |                            |        |                   |
| Mud Properties                                                                                                                                                                            |            |                       |                  |                            |        |                   |
| Type                                                                                                                                                                                      |            | Oil Based             |                  |                            |        |                   |
| WT                                                                                                                                                                                        |            | 9.30                  |                  |                            |        |                   |
| VIS                                                                                                                                                                                       |            | 56.00                 |                  |                            |        |                   |
| PV                                                                                                                                                                                        |            | 0.00                  |                  |                            |        |                   |
| YP                                                                                                                                                                                        |            | 0.00                  |                  |                            |        |                   |
| POOH Reason/Notes                                                                                                                                                                         |            |                       |                  |                            |        |                   |
| Penetration Rate: Pooh due to ROP and to Replace Res Tool                                                                                                                                 |            |                       |                  |                            |        |                   |
| Incident Notes                                                                                                                                                                            |            |                       |                  |                            |        |                   |
| Directional:                                                                                                                                                                              |            |                       |                  |                            |        |                   |
| MWD:                                                                                                                                                                                      |            |                       |                  |                            |        |                   |
| Comments                                                                                                                                                                                  |            |                       |                  |                            |        |                   |
| Directional: 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 350-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs / BIT: Baker Type: DD506TWX SN: 5305211 Jets: 6 x 22 TFA: 2.227 Runs: 1 |            |                       |                  |                            |        |                   |
| MWD:                                                                                                                                                                                      |            |                       |                  |                            |        |                   |



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

**Mud Motor Report - BHA 7 (BHA #7 (Lateral Assembly))**

| Motor Details                                                                                                                                                                                                 |             | Date/Depth/Distances  | Hours            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------|------------------|
| S/N                                                                                                                                                                                                           | 700-40-032  | Date In               | 2020-02-04 20:30 |
| Size (in)                                                                                                                                                                                                     | 7.0         | Depth In (ft)         | 14704.00         |
| Lobe/Stage                                                                                                                                                                                                    | 7/8, 8.50   | Date Out              | 2020-02-10 05:45 |
| Bend Angle                                                                                                                                                                                                    | 1.75        | Depth Out (ft)        | 20316.00         |
| Speed (rev/gal)                                                                                                                                                                                               | 0.26        | Total Drilled (ft)    | 5612.00          |
| Wear Pad OD (in)                                                                                                                                                                                              | 7.187       | Distance Slid (ft)    | 713.00           |
| Manufacturer                                                                                                                                                                                                  | N/A         | Distance Rotated (ft) | 4899.00          |
| <b>Motor Results</b>                                                                                                                                                                                          |             | % Distance Sliding    | 12.70%           |
| Motor Incident                                                                                                                                                                                                | No          | % Distance Rotating   | 87.30%           |
| Average Total ROP (ft/h)                                                                                                                                                                                      | 67.01       |                       |                  |
| Average Slide ROP (ft/h)                                                                                                                                                                                      | 32.53       |                       |                  |
| Average Rotating ROP (ft/h)                                                                                                                                                                                   | 79.23       |                       |                  |
| <b>Bit Details</b>                                                                                                                                                                                            |             |                       |                  |
| OD (in)                                                                                                                                                                                                       | 8.500       |                       |                  |
| Vendor                                                                                                                                                                                                        | Halliburton |                       |                  |
| S/N                                                                                                                                                                                                           | 13418529    |                       |                  |
| Nozzles                                                                                                                                                                                                       | 6 x 22      |                       |                  |
| Total Flow Area (in <sup>2</sup> )                                                                                                                                                                            | 2.227       |                       |                  |
| Bit Type                                                                                                                                                                                                      | PDC         |                       |                  |
| <b>Bit Distances</b>                                                                                                                                                                                          |             |                       |                  |
| Bend (Bit to Bend): 5.32 ft, Survey (Bit to Survey): 71.00 ft, Gamma (Bit to Gamma): 48.00 ft, Resistivity (Bit to Resistivity): 58.00 ft                                                                     |             |                       |                  |
| <b>Mud Properties</b>                                                                                                                                                                                         |             |                       |                  |
| Type                                                                                                                                                                                                          | Oil Based   |                       |                  |
| WT                                                                                                                                                                                                            | 9.50        |                       |                  |
| VIS                                                                                                                                                                                                           | 50.00       |                       |                  |
| PV                                                                                                                                                                                                            | 0.00        |                       |                  |
| YP                                                                                                                                                                                                            | 0.00        |                       |                  |
| <b>POOH Reason/Notes</b>                                                                                                                                                                                      |             |                       |                  |
| Total Depth/Casing Point: N/A                                                                                                                                                                                 |             |                       |                  |
| <b>Incident Notes</b>                                                                                                                                                                                         |             |                       |                  |
| Directional: N/A                                                                                                                                                                                              |             |                       |                  |
| MWD:                                                                                                                                                                                                          |             |                       |                  |
| <b>Comments</b>                                                                                                                                                                                               |             |                       |                  |
| Directional: Motor: 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 450-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs BIT: Halliburton Type: GT65D SN: 13418529<br>Jets: 6 x 22 TFA: 2.227 Runs: 1<br>MWD: |             |                       |                  |



# Slide/Rotate Reports

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## Merchant State Unit 301H (WT-20-001)

2020-01-13 to 2020-02-11

Lea, New Mexico, US (32.44, -103.55)

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|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

**Slide/Rotate Report - BHA #1 (17.5" SURFACE)**

| Activity | Start Date | Start Time | End Time | End Date | Hours | Start Depth (ft) | End Depth (ft) | Distance (ft) | RoP (ft/h) | Toolface | Flow Rate (gpm) | Surface RPM | WOB (klbs) | Press On (psi) | Press Off (psi) | Hole Section Type |
|----------|------------|------------|----------|----------|-------|------------------|----------------|---------------|------------|----------|-----------------|-------------|------------|----------------|-----------------|-------------------|
| Rotate   | 01-13      | 07:00      | 07:45    | 01-13    | 0.75  | 145.00           | 298.00         | 153.00        | 204.00     | N/A      | 700.00          | 50.0        | 20.00      | 1700.00        | 1100.00         |                   |
| Rotate   | 01-13      | 07:50      | 08:10    | 01-13    | 0.33  | 298.00           | 392.00         | 94.00         | 282.00     | N/A      | 700.00          | 50.0        | 20.00      | 1700.00        | 1100.00         |                   |
| Rotate   | 01-13      | 08:15      | 08:30    | 01-13    | 0.25  | 392.00           | 487.00         | 95.00         | 380.00     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 08:35      | 08:45    | 01-13    | 0.17  | 487.00           | 581.00         | 94.00         | 564.00     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 08:50      | 09:05    | 01-13    | 0.25  | 581.00           | 676.00         | 95.00         | 380.00     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 09:10      | 09:25    | 01-13    | 0.25  | 676.00           | 770.00         | 94.00         | 376.00     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 09:30      | 09:55    | 01-13    | 0.42  | 770.00           | 864.00         | 94.00         | 225.60     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 10:00      | 10:25    | 01-13    | 0.42  | 864.00           | 958.00         | 94.00         | 225.60     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 10:30      | 10:55    | 01-13    | 0.42  | 958.00           | 1052.00        | 94.00         | 225.60     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 11:00      | 11:25    | 01-13    | 0.42  | 1052.00          | 1146.00        | 94.00         | 225.60     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 11:30      | 12:05    | 01-13    | 0.58  | 1146.00          | 1240.00        | 94.00         | 161.14     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 12:10      | 12:40    | 01-13    | 0.5   | 1240.00          | 1333.00        | 93.00         | 186.00     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 12:45      | 13:20    | 01-13    | 0.58  | 1333.00          | 1428.00        | 95.00         | 162.86     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 13:25      | 14:00    | 01-13    | 0.58  | 1428.00          | 1522.00        | 94.00         | 161.14     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 14:05      | 14:30    | 01-13    | 0.42  | 1522.00          | 1612.00        | 90.00         | 216.00     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 14:35      | 15:15    | 01-13    | 0.67  | 1612.00          | 1701.00        | 89.00         | 133.50     | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-13      | 15:20      | 16:00    | 01-13    | 0.67  | 1701.00          | 1756.00        | 55.00         | 82.50      | N/A      | 850.00          | 50.0        | 20.00      | 2600.00        | 2000.00         |                   |



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

**Slide/Rotate Report - BHA #2 (Intermediate 12.25")**

| Activity | Start Date | Start Time | End Time | End Date | Hours | Start Depth (ft) | End Depth (ft) | Distance (ft) | RoP (ft/h) | Toolface | Flow Rate (gpm) | Surface RPM | WOB (klbs) | Press On (psi) | Press Off (psi) | Hole Section Type |
|----------|------------|------------|----------|----------|-------|------------------|----------------|---------------|------------|----------|-----------------|-------------|------------|----------------|-----------------|-------------------|
| Rotate   | 01-19      | 01:15      | 02:25    | 01-19    | 1.17  | 1756.00          | 1888.00        | 132.00        | 113.14     | N/A      | 800.00          | 40.0        | 30.00      | 2700.00        | 2000.00         |                   |
| Rotate   | 01-19      | 02:30      | 02:50    | 01-19    | 0.33  | 1888.00          | 1977.00        | 89.00         | 267.00     | N/A      | 800.00          | 40.0        | 30.00      | 2700.00        | 2000.00         |                   |
| Rotate   | 01-19      | 02:55      | 03:10    | 01-19    | 0.25  | 1977.00          | 2067.00        | 90.00         | 360.00     | N/A      | 800.00          | 40.0        | 30.00      | 2700.00        | 2000.00         |                   |
| Rotate   | 01-19      | 03:15      | 03:35    | 01-19    | 0.33  | 2067.00          | 2156.00        | 89.00         | 267.00     | N/A      | 800.00          | 40.0        | 30.00      | 2700.00        | 2000.00         |                   |
| Rotate   | 01-19      | 03:40      | 03:55    | 01-19    | 0.25  | 2156.00          | 2246.00        | 90.00         | 360.00     | N/A      | 800.00          | 50.0        | 30.00      | 2700.00        | 2000.00         |                   |
| Rotate   | 01-19      | 04:00      | 04:15    | 01-19    | 0.25  | 2246.00          | 2336.00        | 90.00         | 360.00     | N/A      | 800.00          | 50.0        | 30.00      | 2700.00        | 2000.00         |                   |
| Rotate   | 01-19      | 04:20      | 05:00    | 01-19    | 0.67  | 2336.00          | 2515.00        | 179.00        | 268.50     | N/A      | 800.00          | 50.0        | 30.00      | 2700.00        | 2000.00         |                   |
| Rotate   | 01-19      | 05:05      | 05:10    | 01-19    | 0.08  | 2515.00          | 2530.00        | 15.00         | 180.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Slide    | 01-19      | 05:10      | 05:20    | 01-19    | 0.17  | 2530.00          | 2538.00        | 8.00          | 48.00      | 290.0    | 815.00          | N/A         | 20.00      | 2550.00        | 2300.00         |                   |
| Rotate   | 01-19      | 05:20      | 05:30    | 01-19    | 0.17  | 2538.00          | 2605.00        | 67.00         | 402.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 05:35      | 05:55    | 01-19    | 0.33  | 2605.00          | 2694.00        | 89.00         | 267.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 06:00      | 06:20    | 01-19    | 0.33  | 2694.00          | 2784.00        | 90.00         | 270.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 06:25      | 06:40    | 01-19    | 0.25  | 2784.00          | 2873.00        | 89.00         | 356.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 06:45      | 07:05    | 01-19    | 0.33  | 2873.00          | 2963.00        | 90.00         | 270.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 07:10      | 07:20    | 01-19    | 0.17  | 2963.00          | 3053.00        | 90.00         | 540.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 07:25      | 07:40    | 01-19    | 0.25  | 3053.00          | 3142.00        | 89.00         | 356.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 07:45      | 08:00    | 01-19    | 0.25  | 3142.00          | 3232.00        | 90.00         | 360.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Slide    | 01-19      | 08:10      | 08:20    | 01-19    | 0.17  | 3232.00          | 3252.00        | 20.00         | 120.00     | 320.0    | 850.00          | N/A         | 20.00      | 3150.00        | 2650.00         |                   |
| Rotate   | 01-19      | 08:20      | 08:35    | 01-19    | 0.25  | 3252.00          | 3322.00        | 70.00         | 280.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 08:40      | 08:45    | 01-19    | 0.08  | 3322.00          | 3342.00        | 20.00         | 240.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Slide    | 01-19      | 08:45      | 09:00    | 01-19    | 0.25  | 3342.00          | 3362.00        | 20.00         | 80.00      | 235.0    | 850.00          | N/A         | 20.00      | 3150.00        | 2650.00         |                   |
| Rotate   | 01-19      | 09:00      | 09:10    | 01-19    | 0.17  | 3362.00          | 3411.00        | 49.00         | 294.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 09:15      | 09:30    | 01-19    | 0.25  | 3411.00          | 3501.00        | 90.00         | 360.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 09:35      | 10:05    | 01-19    | 0.5   | 3501.00          | 3591.00        | 90.00         | 180.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 10:10      | 10:45    | 01-19    | 0.58  | 3591.00          | 3680.00        | 89.00         | 152.57     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 10:50      | 11:30    | 01-19    | 0.67  | 3680.00          | 3770.00        | 90.00         | 135.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 11:35      | 12:10    | 01-19    | 0.58  | 3770.00          | 3860.00        | 90.00         | 154.29     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 12:15      | 12:40    | 01-19    | 0.42  | 3860.00          | 3949.00        | 89.00         | 213.60     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 12:45      | 13:05    | 01-19    | 0.33  | 3949.00          | 4039.00        | 90.00         | 270.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 13:10      | 13:30    | 01-19    | 0.33  | 4039.00          | 4128.00        | 89.00         | 267.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 13:35      | 13:45    | 01-19    | 0.17  | 4128.00          | 4218.00        | 90.00         | 540.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 13:50      | 14:00    | 01-19    | 0.17  | 4218.00          | 4308.00        | 90.00         | 540.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 14:05      | 14:15    | 01-19    | 0.17  | 4308.00          | 4397.00        | 89.00         | 534.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 14:20      | 14:35    | 01-19    | 0.25  | 4397.00          | 4487.00        | 90.00         | 360.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 14:40      | 14:45    | 01-19    | 0.08  | 4487.00          | 4492.00        | 5.00          | 60.00      | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Slide    | 01-19      | 14:45      | 15:00    | 01-19    | 0.25  | 4492.00          | 4517.00        | 25.00         | 100.00     | 270.0    | 850.00          | N/A         | 25.00      | 3050.00        | 2500.00         |                   |
| Rotate   | 01-19      | 15:00      | 15:10    | 01-19    | 0.17  | 4517.00          | 4577.00        | 60.00         | 360.00     | N/A      | 815.00          | 50.0        | 40.00      | 3000.00        | 2300.00         |                   |
| Rotate   | 01-19      | 15:15      | 15:40    | 01-19    | 0.42  | 4577.00          | 4666.00        | 89.00         | 213.60     | N/A      | 850.00          | 50.0        | 40.00      | 3500.00        | 2550.00         |                   |
| Rotate   | 01-19      | 15:45      | 16:10    | 01-19    | 0.42  | 4666.00          | 4756.00        | 90.00         | 216.00     | N/A      | 850.00          | 50.0        | 40.00      | 3500.00        | 2550.00         |                   |
| Rotate   | 01-19      | 16:15      | 16:30    | 01-19    | 0.25  | 4756.00          | 4846.00        | 90.00         | 360.00     | N/A      | 850.00          | 50.0        | 40.00      | 3500.00        | 2550.00         |                   |
| Rotate   | 01-19      | 16:35      | 16:50    | 01-19    | 0.25  | 4846.00          | 4935.00        | 89.00         | 356.00     | N/A      | 850.00          | 50.0        | 40.00      | 3500.00        | 2550.00         |                   |
| Rotate   | 01-19      | 16:55      | 17:15    | 01-19    | 0.33  | 4935.00          | 5025.00        | 90.00         | 270.00     | N/A      | 850.00          | 50.0        | 40.00      | 3500.00        | 2550.00         |                   |
| Rotate   | 01-19      | 17:20      | 17:40    | 01-19    | 0.33  | 5025.00          | 5115.00        | 90.00         | 270.00     | N/A      | 850.00          | 50.0        | 40.00      | 3500.00        | 2550.00         |                   |
| Rotate   | 01-19      | 17:45      | 18:10    | 01-19    | 0.42  | 5115.00          | 5205.00        | 90.00         | 216.00     | N/A      | 850.00          | 50.0        | 40.00      | 3500.00        | 2550.00         |                   |
| Rotate   | 01-19      | 18:15      | 18:35    | 01-19    | 0.33  | 5205.00          | 5294.00        | 89.00         | 267.00     | N/A      | 850.00          | 50.0        | 40.00      | 3500.00        | 2550.00         |                   |
| Rotate   | 01-19      | 18:40      | 18:55    | 01-19    | 0.25  | 5294.00          | 5365.00        | 71.00         | 284.00     | N/A      | 850.00          | 50.0        | 40.00      | 3500.00        | 2550.00         |                   |



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

**Slide/Rotate Report - BHA #3 (BHA #3 (8.5" Intermediate))**

| Activity | Start Date | Start Time | End Time | End Date | Hours | Start Depth (ft) | End Depth (ft) | Distance (ft) | RoP (ft/h) | Toolface | Flow Rate (gpm) | Surface RPM | WOB (klbs) | Press On (psi) | Press Off (psi) | Hole Section Type |
|----------|------------|------------|----------|----------|-------|------------------|----------------|---------------|------------|----------|-----------------|-------------|------------|----------------|-----------------|-------------------|
| Rotate   | 01-28      | 13:30      | 14:00    | 01-28    | 0.5   | 5365.00          | 5463.00        | 98.00         | 196.00     | N/A      | 700.00          | 45.0        | 36.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 14:05      | 14:30    | 01-28    | 0.42  | 5463.00          | 5552.00        | 89.00         | 213.60     | N/A      | 700.00          | 45.0        | 36.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 14:35      | 14:45    | 01-28    | 0.17  | 5552.00          | 5567.00        | 15.00         | 90.00      | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Slide    | 01-28      | 14:45      | 15:00    | 01-28    | 0.25  | 5567.00          | 5587.00        | 20.00         | 80.00      | 300.0    | 700.00          | N/A         | 25.00      | 2700.00        | 2300.00         |                   |
| Rotate   | 01-28      | 15:00      | 15:15    | 01-28    | 0.25  | 5587.00          | 5627.00        | 40.00         | 160.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 15:20      | 15:50    | 01-28    | 0.5   | 5627.00          | 5732.00        | 105.00        | 210.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 15:55      | 16:15    | 01-28    | 0.33  | 5732.00          | 5821.00        | 89.00         | 267.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 16:20      | 16:45    | 01-28    | 0.42  | 5821.00          | 5911.00        | 90.00         | 216.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 16:50      | 17:05    | 01-28    | 0.25  | 5911.00          | 6000.00        | 89.00         | 356.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 17:10      | 17:30    | 01-28    | 0.33  | 6000.00          | 6090.00        | 90.00         | 270.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 17:35      | 17:45    | 01-28    | 0.17  | 6090.00          | 6179.00        | 89.00         | 534.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 17:50      | 18:05    | 01-28    | 0.25  | 6179.00          | 6269.00        | 90.00         | 360.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 18:10      | 18:25    | 01-28    | 0.25  | 6269.00          | 6358.00        | 89.00         | 356.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 18:30      | 18:50    | 01-28    | 0.33  | 6358.00          | 6448.00        | 90.00         | 270.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 18:55      | 19:10    | 01-28    | 0.25  | 6448.00          | 6538.00        | 90.00         | 360.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 19:15      | 19:30    | 01-28    | 0.25  | 6538.00          | 6627.00        | 89.00         | 356.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Slide    | 01-28      | 19:35      | 19:45    | 01-28    | 0.17  | 6627.00          | 6639.00        | 12.00         | 72.00      | 180.0    | 730.00          | N/A         | 20.00      | 2900.00        | 2600.00         |                   |
| Rotate   | 01-28      | 19:45      | 20:00    | 01-28    | 0.25  | 6639.00          | 6717.00        | 78.00         | 312.00     | N/A      | 700.00          | 40.0        | 40.00      | 2473.00        | 2031.00         |                   |
| Rotate   | 01-28      | 20:05      | 20:25    | 01-28    | 0.33  | 6717.00          | 6806.00        | 89.00         | 267.00     | N/A      | 730.00          | 50.0        | 45.00      | 3300.00        | 2800.00         |                   |
| Rotate   | 01-28      | 20:30      | 20:50    | 01-28    | 0.33  | 6806.00          | 6896.00        | 90.00         | 270.00     | N/A      | 730.00          | 50.0        | 45.00      | 3300.00        | 2800.00         |                   |
| Rotate   | 01-28      | 20:55      | 21:05    | 01-28    | 0.17  | 6896.00          | 6985.00        | 89.00         | 534.00     | N/A      | 730.00          | 50.0        | 45.00      | 3300.00        | 2800.00         |                   |
| Rotate   | 01-28      | 21:10      | 21:30    | 01-28    | 0.33  | 6985.00          | 7075.00        | 90.00         | 270.00     | N/A      | 730.00          | 50.0        | 45.00      | 3300.00        | 2800.00         |                   |
| Rotate   | 01-28      | 21:35      | 22:00    | 01-28    | 0.42  | 7075.00          | 7164.00        | 89.00         | 213.60     | N/A      |                 |             |            |                |                 |                   |
| Rotate   | 01-28      | 22:05      | 22:30    | 01-28    | 0.42  | 7164.00          | 7254.00        | 90.00         | 216.00     | N/A      | 730.00          | 30.0        | 40.00      | 3300.00        | 2400.00         |                   |
| Rotate   | 01-28      | 22:35      | 23:05    | 01-28    | 0.5   | 7254.00          | 7344.00        | 90.00         | 180.00     | N/A      | 730.00          | 30.0        | 40.00      | 3300.00        | 2400.00         |                   |
| Rotate   | 01-28      | 23:10      | 23:45    | 01-28    | 0.58  | 7344.00          | 7433.00        | 89.00         | 152.57     | N/A      | 730.00          | 30.0        | 40.00      | 3300.00        | 2400.00         |                   |
| Rotate   | 01-28      | 23:50      | 00:25    | 01-29    | 0.58  | 7433.00          | 7523.00        | 90.00         | 154.29     | N/A      | 730.00          | 30.0        | 40.00      | 3300.00        | 2400.00         |                   |
| Rotate   | 01-29      | 00:30      | 01:05    | 01-29    | 0.58  | 7523.00          | 7613.00        | 90.00         | 154.29     | N/A      | 730.00          | 30.0        | 40.00      | 3300.00        | 2400.00         |                   |
| Rotate   | 01-29      | 01:10      | 01:40    | 01-29    | 0.5   | 7613.00          | 7703.00        | 90.00         | 180.00     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 01:45      | 02:15    | 01-29    | 0.5   | 7703.00          | 7792.00        | 89.00         | 178.00     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Slide    | 01-29      | 02:20      | 02:40    | 01-29    | 0.33  | 7792.00          | 7807.00        | 15.00         | 45.00      | 60.0     | 650.00          | N/A         | 25.00      | 2400.00        | 2050.00         |                   |
| Rotate   | 01-29      | 02:40      | 03:00    | 01-29    | 0.33  | 7807.00          | 7881.00        | 74.00         | 222.00     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 03:05      | 03:35    | 01-29    | 0.5   | 7881.00          | 7971.00        | 90.00         | 180.00     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 03:40      | 04:25    | 01-29    | 0.75  | 7971.00          | 8060.00        | 89.00         | 118.67     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 04:30      | 05:00    | 01-29    | 0.5   | 8060.00          | 8150.00        | 90.00         | 180.00     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 05:05      | 05:50    | 01-29    | 0.75  | 8150.00          | 8240.00        | 90.00         | 120.00     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 05:55      | 06:30    | 01-29    | 0.58  | 8240.00          | 8329.00        | 89.00         | 152.57     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 06:35      | 07:10    | 01-29    | 0.58  | 8329.00          | 8419.00        | 90.00         | 154.29     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 07:15      | 07:40    | 01-29    | 0.42  | 8419.00          | 8508.00        | 89.00         | 213.60     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 07:45      | 08:30    | 01-29    | 0.75  | 8508.00          | 8598.00        | 90.00         | 120.00     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 08:35      | 09:10    | 01-29    | 0.58  | 8598.00          | 8687.00        | 89.00         | 152.57     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 09:15      | 10:05    | 01-29    | 0.83  | 8687.00          | 8777.00        | 90.00         | 108.00     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 10:10      | 11:00    | 01-29    | 0.83  | 8777.00          | 8866.00        | 89.00         | 106.80     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 11:05      | 12:05    | 01-29    | 1.0   | 8866.00          | 8956.00        | 90.00         | 90.00      | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 12:10      | 13:05    | 01-29    | 0.92  | 8956.00          | 9046.00        | 90.00         | 98.18      | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 13:10      | 14:00    | 01-29    | 0.83  | 9046.00          | 9135.00        | 89.00         | 106.80     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 14:05      | 14:55    | 01-29    | 0.83  | 9135.00          | 9225.00        | 90.00         | 108.00     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 15:00      | 15:50    | 01-29    | 0.83  | 9225.00          | 9314.00        | 89.00         | 106.80     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 15:55      | 16:45    | 01-29    | 0.83  | 9314.00          | 9404.00        | 90.00         | 108.00     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 16:50      | 17:35    | 01-29    | 0.75  | 9404.00          | 9494.00        | 90.00         | 120.00     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 17:40      | 18:20    | 01-29    | 0.67  | 9494.00          | 9583.00        | 89.00         | 133.50     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |
| Rotate   | 01-29      | 18:25      | 18:40    | 01-29    | 0.25  | 9583.00          | 9630.00        | 47.00         | 188.00     | N/A      | 650.00          | 30.0        | 40.00      | 2750.00        | 2100.00         |                   |



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

### Slide/Rotate Report - BHA #4 (BHA #4 (Curve Assembly))

| Activity | Start Date | Start Time | End Time | End Date | Hours | Start Depth (ft) | End Depth (ft) | Distance (ft) | RoP (ft/h) | Toolface | Flow Rate (gpm) | Surface RPM | WOB (klbs) | Press On (psi) | Press Off (psi) | Hole Section Type |
|----------|------------|------------|----------|----------|-------|------------------|----------------|---------------|------------|----------|-----------------|-------------|------------|----------------|-----------------|-------------------|
| Slide    | 01-30      | 06:00      | 06:35    | 01-30    | 0.58  | 9630.00          | 9663.00        | 33.00         | 56.57      | 150.0    | 600.00          | N/A         | 20.00      | 2300.00        | 1900.00         |                   |
| Slide    | 01-30      | 06:45      | 07:30    | 01-30    | 0.75  | 9663.00          | 9752.00        | 89.00         | 118.67     | 160.0    | 600.00          | N/A         | 40.00      | 2600.00        | 1900.00         |                   |
| Rotate   | 01-30      | 07:40      | 07:45    | 01-30    | 0.08  | 9752.00          | 9767.00        | 15.00         | 180.00     | N/A      | 600.00          | 30.0        | 35.00      | 2600.00        | 2000.00         |                   |
| Slide    | 01-30      | 07:45      | 08:20    | 01-30    | 0.58  | 9767.00          | 9842.00        | 75.00         | 128.57     | 10.0     | 600.00          | N/A         | 40.00      | 2600.00        | 1900.00         |                   |
| Rotate   | 01-30      | 08:30      | 08:55    | 01-30    | 0.42  | 9842.00          | 9882.00        | 40.00         | 96.00      | N/A      | 600.00          | 30.0        | 35.00      | 2600.00        | 2000.00         |                   |
| Slide    | 01-30      | 08:55      | 09:35    | 01-30    | 0.67  | 9882.00          | 9916.00        | 34.00         | 51.00      | 350.0    | 600.00          | N/A         | 40.00      | 2600.00        | 1900.00         |                   |



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

**Slide/Rotate Report - BHA #5 (BHA #5 (Curve Assembly))**

| Activity | Start Date | Start Time | End Time | End Date | Hours | Start Depth (ft) | End Depth (ft) | Distance (ft) | RoP (ft/h) | Toolface | Flow Rate (gpm) | Surface RPM | WOB (klbs) | Press On (psi) | Press Off (psi) | Hole Section Type |
|----------|------------|------------|----------|----------|-------|------------------|----------------|---------------|------------|----------|-----------------|-------------|------------|----------------|-----------------|-------------------|
| Slide    | 01-30      | 20:30      | 20:40    | 01-30    | 0.17  | 9916.00          | 9954.00        | 38.00         | 228.00     | 350.0    | 600.00          | N/A         | 42.00      | 2600.00        | 1900.00         |                   |
| Rotate   | 01-30      | 20:55      | 21:55    | 01-30    | 1.0   | 9954.00          | 10044.00       | 90.00         | 90.00      | N/A      | 600.00          | 30.0        | 35.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-30      | 22:00      | 22:10    | 01-30    | 0.17  | 10044.00         | 10051.00       | 7.00          | 42.00      | N/A      | 600.00          | 30.0        | 35.00      | 2600.00        | 2000.00         |                   |
| Slide    | 01-30      | 22:10      | 22:25    | 01-30    | 0.25  | 10051.00         | 10134.00       | 83.00         | 332.00     | 330.0    | 600.00          | N/A         | 42.00      | 2600.00        | 1900.00         |                   |
| Rotate   | 01-30      | 22:30      | 00:00    | 01-31    | 1.5   | 10134.00         | 10223.00       | 89.00         | 59.33      | N/A      | 600.00          | 30.0        | 35.00      | 2600.00        | 2000.00         |                   |
| Slide    | 01-31      | 00:05      | 01:05    | 01-31    | 1.0   | 10223.00         | 10313.00       | 90.00         | 90.00      | 30.0     | 600.00          | N/A         | 42.00      | 2600.00        | 1900.00         |                   |
| Slide    | 01-31      | 01:10      | 02:25    | 01-31    | 1.25  | 10313.00         | 10403.00       | 90.00         | 72.00      | 30.0     | 600.00          | N/A         | 42.00      | 2600.00        | 1900.00         |                   |
| Slide    | 01-31      | 02:30      | 03:20    | 01-31    | 0.83  | 10403.00         | 10443.00       | 40.00         | 48.00      | 90.0     | 600.00          | N/A         | 42.00      | 2600.00        | 1900.00         |                   |
| Rotate   | 01-31      | 03:20      | 03:40    | 01-31    | 0.33  | 10443.00         | 10492.00       | 49.00         | 147.00     | N/A      | 600.00          | 30.0        | 35.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-31      | 03:45      | 05:15    | 01-31    | 1.5   | 10492.00         | 10672.00       | 180.00        | 120.00     | N/A      | 600.00          | 30.0        | 35.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-31      | 05:20      | 06:15    | 01-31    | 0.92  | 10672.00         | 10761.00       | 89.00         | 97.09      | N/A      | 600.00          | 30.0        | 35.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-31      | 06:20      | 06:25    | 01-31    | 0.08  | 10761.00         | 10774.00       | 13.00         | 156.00     | N/A      | 600.00          | 30.0        | 35.00      | 2600.00        | 2000.00         |                   |
| Slide    | 01-31      | 06:25      | 06:35    | 01-31    | 0.17  | 10774.00         | 10777.00       | 3.00          | 18.00      | 180.0    | 600.00          | N/A         | 42.00      | 2600.00        | 1900.00         |                   |
| Slide    | 01-31      | 07:00      | 07:15    | 01-31    | 0.25  | 10777.00         | 10789.00       | 12.00         | 48.00      | 180.0    | 600.00          | N/A         | 42.00      | 2600.00        | 1900.00         |                   |
| Rotate   | 01-31      | 07:15      | 08:00    | 01-31    | 0.75  | 10789.00         | 10851.00       | 62.00         | 82.67      | N/A      | 600.00          | 30.0        | 35.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-31      | 08:10      | 09:00    | 01-31    | 0.83  | 10851.00         | 10941.00       | 90.00         | 108.00     | N/A      | 600.00          | 30.0        | 35.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-31      | 09:10      | 10:05    | 01-31    | 0.92  | 10941.00         | 11031.00       | 90.00         | 98.18      | N/A      | 600.00          | 40.0        | 35.00      | 2600.00        | 2000.00         |                   |
| Rotate   | 01-31      | 10:15      | 10:45    | 01-31    | 0.5   | 11031.00         | 11082.00       | 51.00         | 102.00     | N/A      | 600.00          | 40.0        | 35.00      | 2600.00        | 2000.00         |                   |



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

### Slide/Rotate Report - BHA #6 (BHA #6 (Lateral Assembly))

| Activity | Start Date | Start Time | End Time | End Date | Hours | Start Depth (ft) | End Depth (ft) | Distance (ft) | RoP (ft/h) | Toolface | Flow Rate (gpm) | Surface RPM | WOB (klbs) | Press On (psi) | Press Off (psi) | Hole Section Type |
|----------|------------|------------|----------|----------|-------|------------------|----------------|---------------|------------|----------|-----------------|-------------|------------|----------------|-----------------|-------------------|
| Rotate   | 02-01      | 00:00      | 01:55    | 02-01    | 1.92  | 11082.00         | 11162.00       | 80.00         | 41.74      | N/A      | 550.00          | 50.0        | 35.00      | 3100.00        | 2500.00         |                   |
| Rotate   | 02-01      | 02:00      | 04:20    | 02-01    | 2.33  | 11162.00         | 11342.00       | 180.00        | 77.14      | N/A      | 550.00          | 50.0        | 35.00      | 3100.00        | 2500.00         |                   |
| Rotate   | 02-01      | 04:35      | 05:25    | 02-01    | 0.83  | 11342.00         | 11431.00       | 89.00         | 106.80     | N/A      | 550.00          | 50.0        | 35.00      | 3100.00        | 2500.00         |                   |
| Rotate   | 02-01      | 05:35      | 05:40    | 02-01    | 0.08  | 11431.00         | 11435.00       | 4.00          | 48.00      | N/A      | 550.00          | 50.0        | 35.00      | 3100.00        | 2500.00         |                   |
| Slide    | 02-01      | 05:40      | 06:05    | 02-01    | 0.42  | 11435.00         | 11455.00       | 20.00         | 48.00      | 135.0    | 600.00          | N/A         | 42.00      | 2600.00        | 1900.00         |                   |
| Rotate   | 02-01      | 06:05      | 06:40    | 02-01    | 0.58  | 11455.00         | 11520.00       | 65.00         | 111.43     | N/A      | 650.00          | 50.0        | 45.00      | 3700.00        | 3200.00         |                   |
| Rotate   | 02-01      | 06:50      | 07:50    | 02-01    | 1.0   | 11520.00         | 11610.00       | 90.00         | 90.00      | N/A      | 650.00          | 50.0        | 45.00      | 3700.00        | 3200.00         |                   |
| Rotate   | 02-01      | 08:00      | 08:55    | 02-01    | 0.92  | 11610.00         | 11699.00       | 89.00         | 97.09      | N/A      | 650.00          | 50.0        | 45.00      | 3700.00        | 3200.00         |                   |
| Rotate   | 02-01      | 09:05      | 10:10    | 02-01    | 1.08  | 11699.00         | 11789.00       | 90.00         | 83.08      | N/A      | 650.00          | 50.0        | 45.00      | 3700.00        | 3200.00         |                   |
| Rotate   | 02-01      | 10:20      | 11:00    | 02-01    | 0.67  | 11789.00         | 11822.00       | 33.00         | 49.50      | N/A      | 650.00          | 50.0        | 45.00      | 3700.00        | 3200.00         |                   |
| Rotate   | 02-01      | 11:35      | 13:00    | 02-01    | 1.42  | 11822.00         | 11878.00       | 56.00         | 39.53      | N/A      | 650.00          | 50.0        | 45.00      | 3700.00        | 3200.00         |                   |
| Rotate   | 02-01      | 13:10      | 13:25    | 02-01    | 0.25  | 11878.00         | 11888.00       | 10.00         | 40.00      | N/A      | 650.00          | 50.0        | 45.00      | 3700.00        | 3200.00         |                   |
| Slide    | 02-01      | 13:25      | 14:10    | 02-01    | 0.75  | 11888.00         | 11903.00       | 15.00         | 20.00      | 160.0    | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-01      | 14:10      | 15:40    | 02-01    | 1.5   | 11903.00         | 11968.00       | 65.00         | 43.33      | N/A      | 650.00          | 50.0        | 45.00      | 3700.00        | 3200.00         |                   |
| Rotate   | 02-01      | 15:50      | 18:00    | 02-01    | 2.17  | 11968.00         | 12057.00       | 89.00         | 41.08      | N/A      | 650.00          | 50.0        | 45.00      | 3700.00        | 3200.00         |                   |
| Rotate   | 02-01      | 18:15      | 20:50    | 02-01    | 2.58  | 12057.00         | 12147.00       | 90.00         | 34.84      | N/A      | 650.00          | 50.0        | 45.00      | 3700.00        | 3200.00         |                   |
| Rotate   | 02-01      | 21:00      | 23:30    | 02-01    | 2.5   | 12147.00         | 12237.00       | 90.00         | 36.00      | N/A      | 650.00          | 50.0        | 45.00      | 3700.00        | 3200.00         |                   |
| Rotate   | 02-01      | 23:45      | 00:00    | 02-02    | 0.25  | 12237.00         | 12246.00       | 9.00          | 36.00      | N/A      |                 |             |            |                |                 |                   |
| Rotate   | 02-02      | 00:00      | 01:25    | 02-02    | 1.42  | 12246.00         | 12326.00       | 80.00         | 56.47      | N/A      | 650.00          | 50.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-02      | 01:45      | 02:25    | 02-02    | 0.67  | 12326.00         | 12356.00       | 30.00         | 45.00      | 60.0     | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-02      | 02:25      | 03:55    | 02-02    | 1.5   | 12356.00         | 12416.00       | 60.00         | 40.00      | N/A      | 650.00          | 50.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-02      | 04:30      | 05:20    | 02-02    | 0.83  | 12416.00         | 12446.00       | 30.00         | 36.00      | 45.0     | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-02      | 05:20      | 06:20    | 02-02    | 1.0   | 12446.00         | 12506.00       | 60.00         | 60.00      | N/A      | 650.00          | 50.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-02      | 06:30      | 06:45    | 02-02    | 0.25  | 12506.00         | 12516.00       | 10.00         | 40.00      | N/A      | 650.00          | 50.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-02      | 06:45      | 07:35    | 02-02    | 0.83  | 12516.00         | 12536.00       | 20.00         | 24.00      | 60.0     | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-02      | 07:35      | 09:05    | 02-02    | 1.5   | 12536.00         | 12595.00       | 59.00         | 39.33      | N/A      | 650.00          | 50.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-02      | 09:20      | 09:45    | 02-02    | 0.42  | 12595.00         | 12607.00       | 12.00         | 28.80      | N/A      | 650.00          | 50.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-02      | 09:45      | 10:30    | 02-02    | 0.75  | 12607.00         | 12627.00       | 20.00         | 26.67      | 80.0     | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-02      | 10:30      | 11:40    | 02-02    | 1.17  | 12627.00         | 12685.00       | 58.00         | 49.71      | N/A      | 650.00          | 50.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-02      | 11:50      | 13:10    | 02-02    | 1.33  | 12685.00         | 12774.00       | 89.00         | 66.75      | N/A      | 650.00          | 50.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-02      | 13:20      | 14:40    | 02-02    | 1.33  | 12774.00         | 12864.00       | 90.00         | 67.50      | N/A      | 650.00          | 50.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-02      | 14:50      | 15:00    | 02-02    | 0.17  | 12864.00         | 12874.00       | 10.00         | 60.00      | N/A      | 650.00          | 50.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-02      | 15:00      | 15:35    | 02-02    | 0.58  | 12874.00         | 12899.00       | 25.00         | 42.86      | 120.0    | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-02      | 15:35      | 16:45    | 02-02    | 1.17  | 12899.00         | 12954.00       | 55.00         | 47.14      | N/A      | 650.00          | 50.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-02      | 17:10      | 17:15    | 02-02    | 0.08  | 12954.00         | 12956.00       | 2.00          | 24.00      | N/A      | 650.00          | 50.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-02      | 17:15      | 18:10    | 02-02    | 0.92  | 12956.00         | 12999.00       | 43.00         | 46.91      | 90.0     | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-02      | 18:10      | 18:50    | 02-02    | 0.67  | 12999.00         | 13043.00       | 44.00         | 66.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-02      | 19:00      | 19:10    | 02-02    | 0.17  | 13043.00         | 13047.00       | 4.00          | 24.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-02      | 19:10      | 20:05    | 02-02    | 0.92  | 13047.00         | 13067.00       | 20.00         | 21.82      | 90.0     | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-02      | 20:05      | 21:00    | 02-02    | 0.92  | 13067.00         | 13133.00       | 66.00         | 72.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-02      | 21:10      | 23:00    | 02-02    | 1.83  | 13133.00         | 13222.00       | 89.00         | 48.55      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-02      | 23:15      | 23:35    | 02-02    | 0.33  | 13222.00         | 13229.00       | 7.00          | 21.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-02      | 23:35      | 00:00    | 02-03    | 0.42  | 13229.00         | 13238.00       | 9.00          | 21.60      | 160.0    | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Slide    | 02-03      | 00:00      | 00:15    | 02-03    | 0.25  | 13238.00         | 13249.00       | 11.00         | 44.00      | 160.0    | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-03      | 00:15      | 01:25    | 02-03    | 1.17  | 13249.00         | 13312.00       | 63.00         | 54.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-03      | 01:35      | 02:20    | 02-03    | 0.75  | 13312.00         | 13339.00       | 27.00         | 36.00      | 160.0    | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-03      | 02:20      | 03:30    | 02-03    | 1.17  | 13339.00         | 13401.00       | 62.00         | 53.14      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-03      | 03:45      | 05:30    | 02-03    | 1.75  | 13401.00         | 13491.00       | 90.00         | 51.43      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-03      | 05:40      | 05:55    | 02-03    | 0.25  | 13491.00         | 13506.00       | 15.00         | 60.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-03      | 05:55      | 07:15    | 02-03    | 1.33  | 13506.00         | 13520.00       | 14.00         | 10.50      | 180.0    | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-03      | 07:15      | 08:30    | 02-03    | 1.25  | 13520.00         | 13581.00       | 61.00         | 48.80      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-03      | 08:40      | 10:20    | 02-03    | 1.67  | 13581.00         | 13670.00       | 89.00         | 53.40      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-03      | 10:30      | 12:15    | 02-03    | 1.75  | 13670.00         | 13760.00       | 90.00         | 51.43      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-03      | 12:25      | 14:05    | 02-03    | 1.67  | 13760.00         | 13849.00       | 89.00         | 53.40      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-03      | 14:15      | 15:40    | 02-03    | 1.42  | 13849.00         | 13939.00       | 90.00         | 63.53      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-03      | 15:50      | 16:15    | 02-03    | 0.42  | 13939.00         | 13961.00       | 22.00         | 52.80      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-03      | 16:15      | 17:15    | 02-03    | 1.0   | 13961.00         | 13991.00       | 30.00         | 30.00      | 90.0     | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-03      | 17:15      | 17:50    | 02-03    | 0.58  | 13991.00         | 14028.00       | 37.00         | 63.43      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-03      | 18:00      | 19:35    | 02-03    | 1.58  | 14028.00         | 14118.00       | 90.00         | 56.84      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-03      | 19:45      | 20:40    | 02-03    | 0.92  | 14118.00         | 14148.00       | 30.00         | 32.73      | 135.0    | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-03      | 20:40      | 21:30    | 02-03    | 0.83  | 14148.00         | 14208.00       | 60.00         | 72.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-03      | 21:40      | 21:45    | 02-03    | 0.08  | 14208.00         | 14213.00       | 5.00          | 60.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-03      | 21:45      | 22:30    | 02-03    | 0.75  | 14213.00         | 14243.00       | 30.00         | 40.00      | 180.0    | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-03      | 22:30      | 23:25    | 02-03    | 0.92  | 14243.00         | 14297.00       | 54.00         | 58.91      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |

|        |       |       |       |       |      |          |          |       |       |       |        |      |       |         |         |
|--------|-------|-------|-------|-------|------|----------|----------|-------|-------|-------|--------|------|-------|---------|---------|
| Rotate | 02-03 | 23:40 | 00:00 | 02-04 | 0.33 | 14297.00 | 14313.00 | 16.00 | 48.00 | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-04 | 00:00 | 01:35 | 02-04 | 1.58 | 14313.00 | 14387.00 | 74.00 | 46.74 | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-04 | 01:50 | 02:50 | 02-04 | 1.0  | 14387.00 | 14417.00 | 30.00 | 30.00 | 135.0 | 710.00 | N/A  | 50.00 | 4000.00 | 3700.00 |
| Rotate | 02-04 | 02:50 | 03:55 | 02-04 | 1.08 | 14417.00 | 14476.00 | 59.00 | 54.46 | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-04 | 04:15 | 06:05 | 02-04 | 1.83 | 14476.00 | 14565.00 | 89.00 | 48.55 | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-04 | 06:30 | 08:20 | 02-04 | 1.83 | 14565.00 | 14655.00 | 90.00 | 49.09 | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-04 | 08:30 | 08:40 | 02-04 | 0.17 | 14655.00 | 14660.00 | 5.00  | 30.00 | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-04 | 08:40 | 09:20 | 02-04 | 0.67 | 14660.00 | 14680.00 | 20.00 | 30.00 | 160.0 | 710.00 | N/A  | 50.00 | 4000.00 | 3700.00 |
| Rotate | 02-04 | 09:20 | 09:50 | 02-04 | 0.5  | 14680.00 | 14704.00 | 24.00 | 48.00 | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

**Slide/Rotate Report - BHA #7 (BHA #7 (Lateral Assembly))**

| Activity | Start Date | Start Time | End Time | End Date | Hours | Start Depth (ft) | End Depth (ft) | Distance (ft) | RoP (ft/h) | Toolface | Flow Rate (gpm) | Surface RPM | WOB (klbs) | Press On (psi) | Press Off (psi) | Hole Section Type |
|----------|------------|------------|----------|----------|-------|------------------|----------------|---------------|------------|----------|-----------------|-------------|------------|----------------|-----------------|-------------------|
| Rotate   | 02-05      | 08:00      | 08:10    | 02-05    | 0.17  | 14704.00         | 14730.00       | 26.00         | 156.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 08:15      | 08:55    | 02-05    | 0.67  | 14730.00         | 14819.00       | 89.00         | 133.50     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 09:00      | 09:45    | 02-05    | 0.75  | 14819.00         | 14909.00       | 90.00         | 120.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 09:50      | 09:55    | 02-05    | 0.08  | 14909.00         | 14915.00       | 6.00          | 72.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-05      | 09:55      | 10:10    | 02-05    | 0.25  | 14915.00         | 14930.00       | 15.00         | 60.00      | 30.0     | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-05      | 10:10      | 10:45    | 02-05    | 0.58  | 14930.00         | 14999.00       | 69.00         | 118.29     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-05      | 10:50      | 11:25    | 02-05    | 0.58  | 14999.00         | 15029.00       | 30.00         | 51.43      | 30.0     | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-05      | 11:25      | 12:05    | 02-05    | 0.67  | 15029.00         | 15088.00       | 59.00         | 88.50      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 12:10      | 12:35    | 02-05    | 0.42  | 15088.00         | 15120.00       | 32.00         | 76.80      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-05      | 12:35      | 13:05    | 02-05    | 0.5   | 15120.00         | 15145.00       | 25.00         | 50.00      | 0.0      | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-05      | 13:05      | 13:25    | 02-05    | 0.33  | 15145.00         | 15178.00       | 33.00         | 99.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 13:30      | 14:05    | 02-05    | 0.58  | 15178.00         | 15225.00       | 47.00         | 80.57      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-05      | 14:05      | 14:30    | 02-05    | 0.42  | 15225.00         | 15243.00       | 18.00         | 43.20      | 30.0     | 710.00          | N/A         | 50.00      | 4000.00        | 3700.00         |                   |
| Rotate   | 02-05      | 14:30      | 14:50    | 02-05    | 0.33  | 15243.00         | 15268.00       | 25.00         | 75.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 14:55      | 15:50    | 02-05    | 0.92  | 15268.00         | 15357.00       | 89.00         | 97.09      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 15:55      | 16:35    | 02-05    | 0.67  | 15357.00         | 15447.00       | 90.00         | 135.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 16:45      | 17:40    | 02-05    | 0.92  | 15447.00         | 15537.00       | 90.00         | 98.18      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 17:45      | 18:35    | 02-05    | 0.83  | 15537.00         | 15626.00       | 89.00         | 106.80     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 18:40      | 19:20    | 02-05    | 0.67  | 15626.00         | 15716.00       | 90.00         | 135.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 19:25      | 20:05    | 02-05    | 0.67  | 15716.00         | 15805.00       | 89.00         | 133.50     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 20:10      | 20:45    | 02-05    | 0.58  | 15805.00         | 15895.00       | 90.00         | 154.29     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 22:30      | 23:15    | 02-05    | 0.75  | 15895.00         | 15985.00       | 90.00         | 120.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-05      | 23:20      | 23:25    | 02-05    | 0.08  | 15985.00         | 15991.00       | 6.00          | 72.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-05      | 23:25      | 00:00    | 02-06    | 0.58  | 15991.00         | 16015.00       | 24.00         | 41.14      | 45.0     | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Slide    | 02-06      | 00:00      | 00:05    | 02-06    | 0.08  | 16015.00         | 16021.00       | 6.00          | 72.00      | 45.0     | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Rotate   | 02-06      | 00:05      | 00:35    | 02-06    | 0.5   | 16021.00         | 16074.00       | 53.00         | 106.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 00:40      | 01:00    | 02-06    | 0.33  | 16074.00         | 16110.00       | 36.00         | 108.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-06      | 01:00      | 01:50    | 02-06    | 0.83  | 16110.00         | 16150.00       | 40.00         | 48.00      | 0.0      | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Rotate   | 02-06      | 01:50      | 01:55    | 02-06    | 0.08  | 16150.00         | 16164.00       | 14.00         | 168.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 02:00      | 02:10    | 02-06    | 0.17  | 16164.00         | 16172.00       | 8.00          | 48.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-06      | 02:10      | 02:55    | 02-06    | 0.75  | 16172.00         | 16202.00       | 30.00         | 40.00      | 60.0     | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Rotate   | 02-06      | 02:55      | 03:10    | 02-06    | 0.25  | 16202.00         | 16253.00       | 51.00         | 204.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 03:15      | 04:10    | 02-06    | 0.92  | 16253.00         | 16343.00       | 90.00         | 98.18      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-06      | 04:15      | 04:50    | 02-06    | 0.58  | 16343.00         | 16363.00       | 20.00         | 34.29      | 160.0    | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Rotate   | 02-06      | 04:50      | 05:25    | 02-06    | 0.58  | 16363.00         | 16432.00       | 69.00         | 118.29     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 05:30      | 05:45    | 02-06    | 0.25  | 16432.00         | 16438.00       | 6.00          | 24.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-06      | 05:45      | 06:00    | 02-06    | 0.25  | 16438.00         | 16463.00       | 25.00         | 100.00     | 160.0    | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Rotate   | 02-06      | 06:00      | 06:45    | 02-06    | 0.75  | 16463.00         | 16522.00       | 59.00         | 78.67      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 06:50      | 08:30    | 02-06    | 1.67  | 16522.00         | 16611.00       | 89.00         | 53.40      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 08:35      | 09:35    | 02-06    | 1.0   | 16611.00         | 16701.00       | 90.00         | 90.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 09:40      | 09:50    | 02-06    | 0.17  | 16701.00         | 16710.00       | 9.00          | 54.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-06      | 09:50      | 10:20    | 02-06    | 0.5   | 16710.00         | 16735.00       | 25.00         | 50.00      | 200.0    | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Rotate   | 02-06      | 10:20      | 10:55    | 02-06    | 0.58  | 16735.00         | 16790.00       | 55.00         | 94.29      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 11:00      | 11:45    | 02-06    | 0.75  | 16790.00         | 16880.00       | 90.00         | 120.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-06      | 11:50      | 12:45    | 02-06    | 0.92  | 16880.00         | 16920.00       | 40.00         | 43.64      | 280.0    | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Rotate   | 02-06      | 12:45      | 13:10    | 02-06    | 0.42  | 16920.00         | 16969.00       | 49.00         | 117.60     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 13:15      | 14:15    | 02-06    | 1.0   | 16969.00         | 17059.00       | 90.00         | 90.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-06      | 14:20      | 15:15    | 02-06    | 0.92  | 17059.00         | 17089.00       | 30.00         | 32.73      | 0.0      | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Rotate   | 02-06      | 15:15      | 15:40    | 02-06    | 0.42  | 17089.00         | 17149.00       | 60.00         | 144.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 15:50      | 16:35    | 02-06    | 0.75  | 17149.00         | 17239.00       | 90.00         | 120.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 16:40      | 17:30    | 02-06    | 0.83  | 17239.00         | 17328.00       | 89.00         | 106.80     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-06      | 17:35      | 18:00    | 02-06    | 0.42  | 17328.00         | 17338.00       | 10.00         | 24.00      | 60.0     | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Slide    | 02-06      | 18:35      | 19:20    | 02-06    | 0.75  | 17338.00         | 17363.00       | 25.00         | 33.33      | 60.0     | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Rotate   | 02-06      | 19:20      | 19:50    | 02-06    | 0.5   | 17363.00         | 17418.00       | 55.00         | 110.00     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 19:55      | 20:40    | 02-06    | 0.75  | 17418.00         | 17507.00       | 89.00         | 118.67     | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 20:45      | 22:10    | 02-06    | 1.42  | 17507.00         | 17597.00       | 90.00         | 63.53      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-06      | 22:15      | 22:30    | 02-06    | 0.25  | 17597.00         | 17602.00       | 5.00          | 20.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-06      | 22:30      | 23:20    | 02-06    | 0.83  | 17602.00         | 17632.00       | 30.00         | 36.00      | 340.0    | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Rotate   | 02-06      | 23:20      | 23:55    | 02-06    | 0.58  | 17632.00         | 17686.00       | 54.00         | 92.57      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-07      | 00:00      | 01:10    | 02-07    | 1.17  | 17686.00         | 17776.00       | 90.00         | 77.14      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-07      | 01:15      | 02:25    | 02-07    | 1.17  | 17776.00         | 17865.00       | 89.00         | 76.29      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Rotate   | 02-07      | 02:30      | 02:40    | 02-07    | 0.17  | 17865.00         | 17870.00       | 5.00          | 30.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |
| Slide    | 02-07      | 02:40      | 03:25    | 02-07    | 0.75  | 17870.00         | 17895.00       | 25.00         | 33.33      | 80.0     | 700.00          | N/A         | 50.00      | 4500.00        | 4200.00         |                   |
| Rotate   | 02-07      | 03:25      | 04:05    | 02-07    | 0.67  | 17895.00         | 17955.00       | 60.00         | 90.00      | N/A      | 700.00          | 40.0        | 45.00      | 3500.00        | 3000.00         |                   |

|        |       |       |       |       |      |          |          |       |        |       |        |      |       |         |         |
|--------|-------|-------|-------|-------|------|----------|----------|-------|--------|-------|--------|------|-------|---------|---------|
| Rotate | 02-07 | 04:10 | 05:00 | 02-07 | 0.83 | 17955.00 | 18045.00 | 90.00 | 108.00 | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-07 | 05:05 | 05:20 | 02-07 | 0.25 | 18045.00 | 18055.00 | 10.00 | 40.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-07 | 05:20 | 06:20 | 02-07 | 1.0  | 18055.00 | 18095.00 | 40.00 | 40.00  | 120.0 | 700.00 | N/A  | 50.00 | 4500.00 | 4200.00 |
| Rotate | 02-07 | 06:20 | 06:50 | 02-07 | 0.5  | 18095.00 | 18134.00 | 39.00 | 78.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-07 | 07:15 | 07:20 | 02-07 | 0.08 | 18134.00 | 18142.00 | 8.00  | 96.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-07 | 07:50 | 08:45 | 02-07 | 0.92 | 18142.00 | 18223.00 | 81.00 | 88.36  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-07 | 09:00 | 10:05 | 02-07 | 1.08 | 18223.00 | 18253.00 | 30.00 | 27.69  | 170.0 | 700.00 | N/A  | 50.00 | 4500.00 | 4200.00 |
| Rotate | 02-07 | 10:05 | 11:00 | 02-07 | 0.92 | 18253.00 | 18313.00 | 60.00 | 65.45  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-07 | 11:10 | 12:15 | 02-07 | 1.08 | 18313.00 | 18403.00 | 90.00 | 83.08  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-07 | 13:15 | 14:00 | 02-07 | 0.75 | 18403.00 | 18423.00 | 20.00 | 26.67  | 200.0 | 700.00 | N/A  | 50.00 | 4500.00 | 4200.00 |
| Rotate | 02-07 | 14:00 | 14:40 | 02-07 | 0.67 | 18423.00 | 18492.00 | 69.00 | 103.50 | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-07 | 14:50 | 15:45 | 02-07 | 0.92 | 18492.00 | 18581.00 | 89.00 | 97.09  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-07 | 15:50 | 16:50 | 02-07 | 1.0  | 18581.00 | 18671.00 | 90.00 | 90.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-07 | 16:55 | 18:30 | 02-07 | 1.58 | 18671.00 | 18761.00 | 90.00 | 56.84  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-07 | 18:35 | 18:45 | 02-07 | 0.17 | 18761.00 | 18765.00 | 4.00  | 24.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-07 | 18:45 | 20:05 | 02-07 | 1.33 | 18765.00 | 18800.00 | 35.00 | 26.25  | 60.0  |        | N/A  |       |         |         |
| Rotate | 02-07 | 20:05 | 20:45 | 02-07 | 0.67 | 18800.00 | 18850.00 | 50.00 | 75.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-07 | 20:50 | 22:20 | 02-07 | 1.5  | 18850.00 | 18940.00 | 90.00 | 60.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-07 | 22:25 | 22:35 | 02-07 | 0.17 | 18940.00 | 18945.00 | 5.00  | 30.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-07 | 22:35 | 23:40 | 02-07 | 1.08 | 18945.00 | 18975.00 | 30.00 | 27.69  | 20.0  | 700.00 | N/A  | 50.00 | 5000.00 | 4500.00 |
| Rotate | 02-07 | 23:40 | 00:00 | 02-08 | 0.33 | 18975.00 | 18998.00 | 23.00 | 69.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 00:00 | 00:40 | 02-08 | 0.67 | 18998.00 | 19030.00 | 32.00 | 48.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 00:45 | 01:50 | 02-08 | 1.08 | 19030.00 | 19120.00 | 90.00 | 83.08  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 01:55 | 03:15 | 02-08 | 1.33 | 19120.00 | 19209.00 | 89.00 | 66.75  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 03:20 | 03:30 | 02-08 | 0.17 | 19209.00 | 19214.00 | 5.00  | 30.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-08 | 03:30 | 04:35 | 02-08 | 1.08 | 19214.00 | 19239.00 | 25.00 | 23.08  | 180.0 | 700.00 | N/A  | 50.00 | 5000.00 | 4500.00 |
| Rotate | 02-08 | 04:35 | 05:10 | 02-08 | 0.58 | 19239.00 | 19267.00 | 28.00 | 48.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-08 | 05:10 | 05:55 | 02-08 | 0.75 | 19267.00 | 19287.00 | 20.00 | 26.67  | 180.0 | 700.00 | N/A  | 50.00 | 5000.00 | 4500.00 |
| Rotate | 02-08 | 05:55 | 06:10 | 02-08 | 0.25 | 19287.00 | 19299.00 | 12.00 | 48.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 06:15 | 06:40 | 02-08 | 0.42 | 19299.00 | 19333.00 | 34.00 | 81.60  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-08 | 06:40 | 08:50 | 02-08 | 2.17 | 19333.00 | 19373.00 | 40.00 | 18.46  | 180.0 | 700.00 | N/A  | 50.00 | 5000.00 | 4500.00 |
| Rotate | 02-08 | 08:50 | 09:15 | 02-08 | 0.42 | 19373.00 | 19389.00 | 16.00 | 38.40  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 09:20 | 11:00 | 02-08 | 1.67 | 19389.00 | 19478.00 | 89.00 | 53.40  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 11:05 | 11:30 | 02-08 | 0.42 | 19478.00 | 19495.00 | 17.00 | 40.80  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-08 | 11:30 | 12:15 | 02-08 | 0.75 | 19495.00 | 19505.00 | 10.00 | 13.33  | 200.0 | 700.00 | N/A  | 50.00 | 5000.00 | 4500.00 |
| Rotate | 02-08 | 12:15 | 13:25 | 02-08 | 1.17 | 19505.00 | 19568.00 | 63.00 | 54.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 13:30 | 13:40 | 02-08 | 0.17 | 19568.00 | 19575.00 | 7.00  | 42.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-08 | 13:40 | 14:15 | 02-08 | 0.58 | 19575.00 | 19585.00 | 10.00 | 17.14  | 180.0 | 700.00 | N/A  | 50.00 | 5000.00 | 4500.00 |
| Slide  | 02-08 | 14:25 | 15:05 | 02-08 | 0.67 | 19585.00 | 19595.00 | 10.00 | 15.00  | 180.0 | 700.00 | N/A  | 50.00 | 5000.00 | 4500.00 |
| Rotate | 02-08 | 15:05 | 16:20 | 02-08 | 1.25 | 19595.00 | 19657.00 | 62.00 | 49.60  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 16:25 | 18:10 | 02-08 | 1.75 | 19657.00 | 19747.00 | 90.00 | 51.43  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 18:15 | 19:45 | 02-08 | 1.5  | 19747.00 | 19836.00 | 89.00 | 59.33  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 19:50 | 20:55 | 02-08 | 1.08 | 19836.00 | 19926.00 | 90.00 | 83.08  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 21:00 | 21:10 | 02-08 | 0.17 | 19926.00 | 19931.00 | 5.00  | 30.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Slide  | 02-08 | 21:10 | 21:55 | 02-08 | 0.75 | 19931.00 | 19956.00 | 25.00 | 33.33  | 340.0 | 700.00 | N/A  | 50.00 | 5000.00 | 4500.00 |
| Rotate | 02-08 | 21:55 | 22:50 | 02-08 | 0.92 | 19956.00 | 20015.00 | 59.00 | 64.36  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-08 | 22:55 | 00:00 | 02-09 | 1.08 | 20015.00 | 20073.00 | 58.00 | 53.54  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-09 | 00:00 | 00:40 | 02-09 | 0.67 | 20073.00 | 20105.00 | 32.00 | 48.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-09 | 00:45 | 02:25 | 02-09 | 1.67 | 20105.00 | 20195.00 | 90.00 | 54.00  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-09 | 02:30 | 04:30 | 02-09 | 2.0  | 20195.00 | 20284.00 | 89.00 | 44.50  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |
| Rotate | 02-09 | 04:35 | 05:40 | 02-09 | 1.08 | 20284.00 | 20316.00 | 32.00 | 29.54  | N/A   | 700.00 | 40.0 | 45.00 | 3500.00 | 3000.00 |



# Daily Reports

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## Merchant State Unit 301H (WT-20-001)

2020-01-13 to 2020-02-11

Lea, New Mexico, US (32.44, -103.55)

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|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

Monday, Jan 13 00:00 - 23:59 (Day 1 of 20)

Billing: \$20,087.50 (\$247,830.92 total)

| Drilling Summary        |         |                     |       | Drilling Parameters       |                   |
|-------------------------|---------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 145.00  | Downhole Hours      | 14.00 | Rotating WOB (klbs)       | 20.00 - 20.00     |
| Bit Depth (ft)          | 1756.00 | Drilling Hours      | 7.67  | Sliding WOB (klbs)        |                   |
| Bottom Hole Depth (ft)  | 1756.00 | Hours Circulating   | 0.92  | Rotating SPM              | 216.00 - 264.00   |
| Total Distance (ft)     | 1611.00 | Hours Sliding       | 0.00  | Sliding SPM               |                   |
| Distance Rotated (ft)   | 1611.00 | Hours Rotating      | 7.67  | Motor RPM                 | 93.00 - 142.00    |
| Distance Slid (ft)      | 0.00    |                     |       | Surface RPM               | 50.00 - 50.00     |
| Inclination In          | 0.70    |                     |       | Flow Rate (gpm)           | 700.00 - 850.00   |
| Inclination Out         | 0.26    |                     |       | On Bottom Pressure (psi)  | 1700.00 - 2600.00 |
| Azimuth In              | 87.98   | % Hours Rotating    | 100%  | Off Bottom Pressure (psi) | 1100.00 - 2000.00 |
| Azimuth Out             | 254.18  | % Hours Sliding     | 0%    |                           |                   |
| AVG Total ROP (ft/h)    | 210.13  | % Distance Sliding  | 0%    |                           |                   |
| AVG Rotating ROP (ft/h) | 210.13  | % Distance Rotating | 100%  |                           |                   |
| AVG Sliding ROP (ft/h)  | 0.00    |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #1 - 17.5" SURFACE

Date In: Jan 13, 2020, 5:00 Date Out: Jan 13, 2020, 19:00

| Bit Details                |         | Motor Details    |          | Directional Comments                                                                     |
|----------------------------|---------|------------------|----------|------------------------------------------------------------------------------------------|
| OD (in)                    | 17.500  | Size (in)        | 8.0      | Directional: Flow Rate: 400-900, Max Diff: 900 psi, Max Torque: 14,930 ft-lbs, BIT Runs: |
| Vendor                     | BAKER   | Lobe/Stage       | 7/8, 4.0 |                                                                                          |
| S/N                        | 5293469 | Bend Angle       | 1.5      |                                                                                          |
| Nozzles                    | 9-12's  | Speed (rev/gal)  | 0.17     | MWD Comments                                                                             |
| Total Flow Area (in²)      | 0.994   | Wear Pad OD (in) | 8.200    |                                                                                          |
| Drilling Hours for Day     | 7.67    | Bit Distances    |          |                                                                                          |
| Total Drilled for Day (ft) | 1611.00 | N/A              |          | POOH Reason                                                                              |
| Drilling Hours for BHA     | 7.67    |                  |          |                                                                                          |
| Total Drilled for BHA (ft) | 1611.00 |                  |          |                                                                                          |

## Directional Items

| Description                                                                                                                                         | Vendor | SN#               | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: DP606S, Style: PDC, Gauge Length (in): 3.00, Size (in): 17.50                                                            | BAKER  | 5293469           | 6 5/8" Reg Pin |                |         | 17.500  |              | 1.50     | 1.50           |
| <b>Mud Motor</b><br>Description: 7/8, 4.0 FXD 1.5° w/ 12" NBS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 4 | AIM    | 800-40-005<br>AIM | 6 5/8" Reg Box | 6 5/8" Reg Box |         | 8.000   |              | 30.09    | 31.59          |
| <b>Stabilizer</b><br>Description: 17" IB STAB                                                                                                       | GTI    | GT801168          | 6 5/8" Reg Box | 6 5/8" Reg Pin | 2.813   | 8.020   |              | 8.02     | 39.61          |
| <b>UBHO Sub</b><br>Description: 8" UBHO SUB, Type: NM                                                                                               | GTI    | GT 8066774        | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.500   | 8.050   |              | 3.45     | 43.06          |
| <b>Drill Collar</b><br>Description: 8" MWD NMDC, Style: Slick Drill, Type: NM                                                                       | GTI    | GT 80-30-285      | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.313   | 8.050   |              | 31.13    | 74.19          |
| <b>Drill Collar</b><br>Description: 8" NMDC, Style: Slick Drill, Type: NM                                                                           | GTI    | GT 80-30-208      | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.313   | 8.010   |              | 31.02    | 105.21         |
| <b>Crossover Sub</b><br>Description: X-O SUB, Type: Steel                                                                                           | BD     | BD 15381          | EverDrlg54 Box | 6 5/8" Reg Pin | 2.875   | 8.250   |              | 3.90     | 109.11         |
| <b>HWDP</b><br>Description: 15 STANDS 5.5" HWDP, Style: Slick                                                                                       | BD     |                   | EverDrlg54 Box | EverDrlg54 Pin | 3.875   | 6.688   |              | 1413.66  | 1522.77        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details                                                                                                                                                                              |
|---------------|------|------------|------------|----------|----------|------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standby       | 15   | 01-13      | 00:00      | 04:00    | 01-13    |            |          | Standby. Skid Rig From 509H                                                                                                                                                                   |
| Change BHA    | 6    | 01-13      | 04:00      | 05:00    | 01-13    |            |          | P/U BHA # 1                                                                                                                                                                                   |
| Other         | 16   | 01-13      | 05:00      | 07:00    | 01-13    |            |          | WORK ON CELLAR PUMP                                                                                                                                                                           |
| Rotary Drill  | 1    | 01-13      | 07:00      | 07:45    | 01-13    | 145.00     | 298.00   | Pressure On (psi): 1700.00, Pressure Off (psi): 1100.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |

|              |    |       |       |       |       |         |         |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|---------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Survey       | 46 | 01-13 | 07:45 | 07:50 | 01-13 | 298.00  | 298.00  | Inclination (°): 0.700, Azimuth (°): 87.980, TVD (ft): 234.99, Dogleg (°/100 ft): 0.30, Sensor Depth (ft): 235.00, Bit To Sensor (ft): 63.00                                                  |
| Rotary Drill | 1  | 01-13 | 07:50 | 08:10 | 01-13 | 298.00  | 392.00  | Pressure On (psi): 1700.00, Pressure Off (psi): 1100.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey       | 46 | 01-13 | 08:10 | 08:15 | 01-13 | 392.00  | 392.00  | Inclination (°): 0.700, Azimuth (°): 108.450, TVD (ft): 328.99, Dogleg (°/100 ft): 0.26, Sensor Depth (ft): 329.00, Bit To Sensor (ft): 63.00                                                 |
| Rotary Drill | 1  | 01-13 | 08:15 | 08:30 | 01-13 | 392.00  | 487.00  | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 08:30 | 08:35 | 01-13 | 487.00  | 487.00  | Inclination (°): 0.260, Azimuth (°): 124.710, TVD (ft): 423.98, Dogleg (°/100 ft): 0.48, Sensor Depth (ft): 424.00, Bit To Sensor (ft): 63.00                                                 |
| Rotary Drill | 1  | 01-13 | 08:35 | 08:45 | 01-13 | 487.00  | 581.00  | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 08:45 | 08:50 | 01-13 | 581.00  | 581.00  | Inclination (°): 0.180, Azimuth (°): 76.460, TVD (ft): 517.98, Dogleg (°/100 ft): 0.21, Sensor Depth (ft): 518.00, Bit To Sensor (ft): 63.00                                                  |
| Rotary Drill | 1  | 01-13 | 08:50 | 09:05 | 01-13 | 581.00  | 676.00  | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 09:05 | 09:10 | 01-13 | 676.00  | 676.00  | Inclination (°): 0.260, Azimuth (°): 61.430, TVD (ft): 612.98, Dogleg (°/100 ft): 0.10, Sensor Depth (ft): 613.00, Bit To Sensor (ft): 63.00                                                  |
| Rotary Drill | 1  | 01-13 | 09:10 | 09:25 | 01-13 | 676.00  | 770.00  | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 09:25 | 09:30 | 01-13 | 770.00  | 770.00  | Inclination (°): 0.260, Azimuth (°): 57.040, TVD (ft): 706.98, Dogleg (°/100 ft): 0.02, Sensor Depth (ft): 707.00, Bit To Sensor (ft): 63.00                                                  |
| Rotary Drill | 1  | 01-13 | 09:30 | 09:55 | 01-13 | 770.00  | 864.00  | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 09:55 | 10:00 | 01-13 | 864.00  | 864.00  | Inclination (°): 0.130, Azimuth (°): 130.430, TVD (ft): 800.98, Dogleg (°/100 ft): 0.27, Sensor Depth (ft): 801.00, Bit To Sensor (ft): 63.00                                                 |
| Rotary Drill | 1  | 01-13 | 10:00 | 10:25 | 01-13 | 864.00  | 958.00  | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 10:25 | 10:30 | 01-13 | 958.00  | 958.00  | Inclination (°): 0.090, Azimuth (°): 202.670, TVD (ft): 894.98, Dogleg (°/100 ft): 0.14, Sensor Depth (ft): 895.00, Bit To Sensor (ft): 63.00                                                 |
| Rotary Drill | 1  | 01-13 | 10:30 | 10:55 | 01-13 | 958.00  | 1052.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 10:55 | 11:00 | 01-13 | 1052.00 | 1052.00 | Inclination (°): 0.130, Azimuth (°): 195.640, TVD (ft): 988.98, Dogleg (°/100 ft): 0.04, Sensor Depth (ft): 989.00, Bit To Sensor (ft): 63.00                                                 |
| Rotary Drill | 1  | 01-13 | 11:00 | 11:25 | 01-13 | 1052.00 | 1146.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 11:25 | 11:30 | 01-13 | 1146.00 | 1146.00 | Inclination (°): 0.040, Azimuth (°): 80.330, TVD (ft): 1082.98, Dogleg (°/100 ft): 0.16, Sensor Depth (ft): 1083.00, Bit To Sensor (ft): 63.00                                                |
| Rotary Drill | 1  | 01-13 | 11:30 | 12:05 | 01-13 | 1146.00 | 1240.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 12:05 | 12:10 | 01-13 | 1240.00 | 1240.00 | Inclination (°): 0.090, Azimuth (°): 291.440, TVD (ft): 1176.98, Dogleg (°/100 ft): 0.13, Sensor Depth (ft): 1177.00, Bit To Sensor (ft): 63.00                                               |
| Rotary Drill | 1  | 01-13 | 12:10 | 12:40 | 01-13 | 1240.00 | 1333.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 12:40 | 12:45 | 01-13 | 1333.00 | 1333.00 | Inclination (°): 0.130, Azimuth (°): 260.940, TVD (ft): 1269.98, Dogleg (°/100 ft): 0.07, Sensor Depth (ft): 1270.00, Bit To Sensor (ft): 63.00                                               |
| Rotary Drill | 1  | 01-13 | 12:45 | 13:20 | 01-13 | 1333.00 | 1428.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 13:20 | 13:25 | 01-13 | 1428.00 | 1428.00 | Inclination (°): 0.180, Azimuth (°): 266.390, TVD (ft): 1364.98, Dogleg (°/100 ft): 0.05, Sensor Depth (ft): 1365.00, Bit To Sensor (ft): 63.00                                               |
| Rotary Drill | 1  | 01-13 | 13:25 | 14:00 | 01-13 | 1428.00 | 1522.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 14:00 | 14:05 | 01-13 | 1522.00 | 1522.00 | Inclination (°): 0.220, Azimuth (°): 247.500, TVD (ft): 1458.98, Dogleg (°/100 ft): 0.08, Sensor Depth (ft): 1459.00, Bit To Sensor (ft): 63.00                                               |
| Rotary Drill | 1  | 01-13 | 14:05 | 14:30 | 01-13 | 1522.00 | 1612.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 14:30 | 14:35 | 01-13 | 1612.00 | 1612.00 | Inclination (°): 0.310, Azimuth (°): 271.670, TVD (ft): 1548.98, Dogleg (°/100 ft): 0.16, Sensor Depth (ft): 1549.00, Bit To Sensor (ft): 63.00                                               |
| Rotary Drill | 1  | 01-13 | 14:35 | 15:15 | 01-13 | 1612.00 | 1701.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 15:15 | 15:20 | 01-13 | 1701.00 | 1701.00 | Inclination (°): 0.260, Azimuth (°): 288.020, TVD (ft): 1637.98, Dogleg (°/100 ft): 0.11, Sensor Depth (ft): 1638.00, Bit To Sensor (ft): 63.00                                               |
| Rotary Drill | 1  | 01-13 | 15:20 | 16:00 | 01-13 | 1701.00 | 1756.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 20.00, Surface RPM: 50, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-13 | 16:00 | 16:05 | 01-13 | 1756.00 | 1756.00 | Inclination (°): 0.260, Azimuth (°): 254.180, TVD (ft): 1692.98, Dogleg (°/100 ft): 0.28, Sensor Depth (ft): 1693.00, Bit To Sensor (ft): 63.00                                               |
| Circulating  | 3  | 01-13 | 16:05 | 17:00 | 01-13 |         |         | CIRCULATE & CONDITION                                                                                                                                                                         |
| Pooh         | 7  | 01-13 | 17:00 | 18:00 | 01-13 |         |         | POOH                                                                                                                                                                                          |
| Change BHA   | 6  | 01-13 | 18:00 | 19:00 | 01-13 |         |         | L/D STAB, PULL MWD, BREAK BIT, RACK BACK                                                                                                                                                      |
| Standby      | 15 | 01-13 | 19:00 | 00:00 | 01-14 |         |         | Standby. Casing Ops                                                                                                                                                                           |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

Tuesday, Jan 14 00:00 - 23:59 (Day 2 of 20)

Billing: N/A (\$247,830.92 total)

| Drilling Summary        |      |  | Drilling Parameters |      |                           |
|-------------------------|------|--|---------------------|------|---------------------------|
| Start Depth (ft)        |      |  | Downhole Hours      | 0.00 | Rotating WOB (klbs)       |
| Bit Depth (ft)          |      |  | Drilling Hours      |      | Sliding WOB (klbs)        |
| Bottom Hole Depth (ft)  |      |  | Hours Circulating   |      | Rotating SPM              |
| Total Distance (ft)     |      |  | Hours Sliding       |      | Sliding SPM               |
| Distance Rotated (ft)   |      |  | Hours Rotating      |      | Motor RPM                 |
| Distance Slid (ft)      |      |  |                     |      | Surface RPM               |
| Inclination In          |      |  |                     |      | Flow Rate (gpm)           |
| Inclination Out         |      |  |                     |      | On Bottom Pressure (psi)  |
| Azimuth In              |      |  | % Hours Rotating    |      | Off Bottom Pressure (psi) |
| Azimuth Out             |      |  | % Hours Sliding     |      |                           |
| AVG Total ROP (ft/h)    | 0.00 |  | % Distance Sliding  |      |                           |
| AVG Rotating ROP (ft/h) | 0.00 |  | % Distance Rotating |      |                           |
| AVG Sliding ROP (ft/h)  | 0.00 |  |                     |      |                           |

**Personnel**

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

**No BHAs****Directional Activities**

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details    |
|---------------|------|------------|------------|----------|----------|------------|----------|---------------------|
| Standby       | 15   | 01-13      | 19:00      | 00:00    | 01-14    |            |          | Standby. Casing Ops |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

Saturday, Jan 18 00:00 - 23:59 (Day 3 of 20)

Billing: \$12,173.75 (\$247,830.92 total)

| Drilling Summary        |      |                     |      | Drilling Parameters       |   |
|-------------------------|------|---------------------|------|---------------------------|---|
| Start Depth (ft)        |      | Downhole Hours      | 0.00 | Rotating WOB (klbs)       |   |
| Bit Depth (ft)          |      | Drilling Hours      | 0.00 | Sliding WOB (klbs)        |   |
| Bottom Hole Depth (ft)  |      | Hours Circulating   | 0.00 | Rotating SPM              |   |
| Total Distance (ft)     | 0.00 | Hours Sliding       | 0.00 | Sliding SPM               |   |
| Distance Rotated (ft)   | 0.00 | Hours Rotating      | 0.00 | Motor RPM                 | - |
| Distance Slid (ft)      | 0.00 |                     |      | Surface RPM               |   |
| Inclination In          |      |                     |      | Flow Rate (gpm)           |   |
| Inclination Out         |      |                     |      | On Bottom Pressure (psi)  |   |
| Azimuth In              |      | % Hours Rotating    |      | Off Bottom Pressure (psi) |   |
| Azimuth Out             |      | % Hours Sliding     |      |                           |   |
| AVG Total ROP (ft/h)    | 0.00 | % Distance Sliding  |      |                           |   |
| AVG Rotating ROP (ft/h) | 0.00 | % Distance Rotating |      |                           |   |
| AVG Sliding ROP (ft/h)  | 0.00 |                     |      |                           |   |

**Personnel**

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

**No BHAs****Directional Activities**

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details                              |
|---------------|------|------------|------------|----------|----------|------------|----------|-----------------------------------------------|
| Standby       | 15   | 01-18      | 00:00      | 12:30    | 01-18    |            |          | Standby while skidding                        |
| Standby       | 15   | 01-18      | 12:30      | 17:00    | 01-18    |            |          | Standby while Skid Rig and N/U BOPs and Test. |
| Fishing       | 13   | 01-18      | 17:00      | 23:00    | 01-18    |            |          | Standby while Fishing                         |
| Change BHA    | 6    | 01-18      | 23:00      | 00:30    | 01-19    |            |          | P/U BHA #2                                    |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

Sunday, Jan 19 00:00 - 23:59 (Day 4 of 20)

Billing: \$5,600.00 (\$247,830.92 total)

| Drilling Summary        |         |                     |       | Drilling Parameters       |                   |
|-------------------------|---------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 1756.00 | Downhole Hours      | 23.50 | Rotating WOB (klbs)       | 30.00 - 40.00     |
| Bit Depth (ft)          | 5362.00 | Drilling Hours      | 14.42 | Sliding WOB (klbs)        | 20.00 - 25.00     |
| Bottom Hole Depth (ft)  | 5365.00 | Hours Circulating   | 4.25  | Rotating SPM              | 246.00 - 264.00   |
| Total Distance (ft)     | 3609.00 | Hours Sliding       | 0.83  | Sliding SPM               | 252.00 - 264.00   |
| Distance Rotated (ft)   | 3536.00 | Hours Rotating      | 13.58 | Motor RPM                 | 130.00 - 160.00   |
| Distance Slid (ft)      | 73.00   |                     |       | Surface RPM               | 40.00 - 50.00     |
| Inclination In          | 0.44    |                     |       | Flow Rate (gpm)           | 800.00 - 850.00   |
| Inclination Out         | 1.45    |                     |       | On Bottom Pressure (psi)  | 2550.00 - 3500.00 |
| Azimuth In              | 44.12   | % Hours Rotating    | 94%   | Off Bottom Pressure (psi) | 2000.00 - 2650.00 |
| Azimuth Out             | 9.58    | % Hours Sliding     | 6%    |                           |                   |
| AVG Total ROP (ft/h)    | 250.34  | % Distance Sliding  | 2%    |                           |                   |
| AVG Rotating ROP (ft/h) | 260.32  | % Distance Rotating | 98%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 87.60   |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #2 - Intermediate 12.25"

Date In: Jan 19, 2020, 0:30 Date Out: Jan 20, 2020, 6:00

| Bit Details                |         | Motor Details                                                 |          | Directional Comments                                                          |
|----------------------------|---------|---------------------------------------------------------------|----------|-------------------------------------------------------------------------------|
| OD (in)                    | 12.250  | Size (in)                                                     | 8.0      | Flow Rate: 400-900, Max Diff: 1390 psi, Max Torque: 21,870 ft-lbs, BIT Runs:0 |
| Vendor                     | ULTERRA | Lobe/Stage                                                    | 7/8, 5.9 |                                                                               |
| S/N                        | 51306   | Bend Angle                                                    | 1.5      |                                                                               |
| Nozzles                    | 6-12's  | Speed (rev/gal)                                               | 0.16     | MWD Comments                                                                  |
| Total Flow Area (in²)      | 0.663   | Wear Pad OD (in)                                              | 8.375    |                                                                               |
| Drilling Hours for Day     | 14.42   | Bit Distances                                                 |          |                                                                               |
| Total Drilled for Day (ft) | 3606.00 | Bend (Bit to Bend): 6.00 ft, Survey (Bit to Survey): 70.00 ft |          | POOH Reason<br>Total Depth/Casing Point: POOH to run casing                   |
| Drilling Hours for BHA     | 14.42   |                                                               |          |                                                                               |
| Total Drilled for BHA (ft) | 3606.00 |                                                               |          |                                                                               |

## Directional Items

| Description                                                                                                                                           | Vendor  | SN#          | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: SPL616, Style: PDC, Gauge Length (in): 3.00, Size (in): 12.25                                                              | ULTERRA | 51306        | 6 5/8" Reg Pin |                |         | 12.250  |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 7/8, 5.9 FXD 1.5° w/ 12" NBS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.9 | BUTCH'S | BDT 800-019  | 6 5/8" Reg Box | 6 5/8" Reg Box |         | 8.000   |              | 37.57    | 38.57          |
| <b>Stabilizer</b><br>Description: 12" IB STAB                                                                                                         | GTI     | GT801176     | 6 5/8" Reg Box | 6 5/8" Reg Pin | 2.875   | 8.010   |              | 8.02     | 46.59          |
| <b>UBHO Sub</b><br>Description: 8" UBHO SUB, Type: NM                                                                                                 | GTI     | GT 8066774   | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.500   | 8.050   |              | 3.45     | 50.04          |
| <b>Drill Collar</b><br>Description: 8" MWD NMDC, Style: Slick Drill, Type: NM                                                                         | GTI     | GT 80-30-285 | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.313   | 8.050   |              | 31.13    | 81.17          |
| <b>Drill Collar</b><br>Description: 8" NMDC, Style: Slick Drill, Type: NM                                                                             | GTI     | GT 80-30-208 | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.313   | 8.010   |              | 31.02    | 112.19         |
| <b>Crossover Sub</b><br>Description: X-O SUB, Type: Steel                                                                                             | BD      | BD 15381     | EverDrlg54 Box | 6 5/8" Reg Pin | 2.875   | 8.250   |              | 3.90     | 116.09         |
| <b>HWDP</b><br>Description: 15 Stands of 5.5" HWDP, Style: Slick                                                                                      | Rig     |              | EverDrlg54 Box | EverDrlg54 Pin | 3.875   | 6.688   |              | 1413.66  | 1529.75        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details                                                                                                                                                                              |
|---------------|------|------------|------------|----------|----------|------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Change BHA    | 6    | 01-18      | 23:00      | 00:30    | 01-19    |            |          | P/U BHA #2                                                                                                                                                                                    |
| TIH           | 8    | 01-19      | 00:30      | 01:15    | 01-19    |            |          | TIH W/ BHA #2                                                                                                                                                                                 |
| Rotary Drill  | 1    | 01-19      | 01:15      | 02:25    | 01-19    | 1756.00    | 1888.00  | Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 246.00 |

|              |    |       |       |       |       |         |         |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|---------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Survey       | 46 | 01-19 | 02:25 | 02:30 | 01-19 | 1888.00 | 1888.00 | Inclination (°): 0.440, Azimuth (°): 44.120, TVD (ft): 1817.98, Dogleg (°/100 ft): 0.54, Sensor Depth (ft): 1818.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 02:30 | 02:50 | 01-19 | 1888.00 | 1977.00 | Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 246.00 |
| Survey       | 46 | 01-19 | 02:50 | 02:55 | 01-19 | 1977.00 | 1977.00 | Inclination (°): 0.750, Azimuth (°): 68.730, TVD (ft): 1906.97, Dogleg (°/100 ft): 0.44, Sensor Depth (ft): 1907.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 02:55 | 03:10 | 01-19 | 1977.00 | 2067.00 | Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 246.00 |
| Survey       | 46 | 01-19 | 03:10 | 03:15 | 01-19 | 2067.00 | 2067.00 | Inclination (°): 0.790, Azimuth (°): 52.910, TVD (ft): 1996.96, Dogleg (°/100 ft): 0.24, Sensor Depth (ft): 1997.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 03:15 | 03:35 | 01-19 | 2067.00 | 2156.00 | Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 40, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 246.00 |
| Survey       | 46 | 01-19 | 03:35 | 03:40 | 01-19 | 2156.00 | 2156.00 | Inclination (°): 0.750, Azimuth (°): 57.740, TVD (ft): 2085.96, Dogleg (°/100 ft): 0.09, Sensor Depth (ft): 2086.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 03:40 | 03:55 | 01-19 | 2156.00 | 2246.00 | Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 246.00 |
| Survey       | 46 | 01-19 | 03:55 | 04:00 | 01-19 | 2246.00 | 2246.00 | Inclination (°): 0.920, Azimuth (°): 49.570, TVD (ft): 2175.95, Dogleg (°/100 ft): 0.23, Sensor Depth (ft): 2176.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 04:00 | 04:15 | 01-19 | 2246.00 | 2336.00 | Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 246.00 |
| Survey       | 46 | 01-19 | 04:15 | 04:20 | 01-19 | 2336.00 | 2336.00 | Inclination (°): 0.750, Azimuth (°): 57.480, TVD (ft): 2265.94, Dogleg (°/100 ft): 0.23, Sensor Depth (ft): 2266.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 04:20 | 05:00 | 01-19 | 2336.00 | 2515.00 | Pressure On (psi): 2700.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 30.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 800.00, Strokes Per Minute: 246.00 |
| Survey       | 46 | 01-19 | 05:00 | 05:05 | 01-19 | 2515.00 | 2515.00 | Inclination (°): 0.660, Azimuth (°): 53.350, TVD (ft): 2444.92, Dogleg (°/100 ft): 0.06, Sensor Depth (ft): 2445.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 05:05 | 05:10 | 01-19 | 2515.00 | 2530.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Slide Drill  | 2  | 01-19 | 05:10 | 05:20 | 01-19 | 2530.00 | 2538.00 | Pressure On (psi): 2550.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252, Toolface: 290, Toolface Type: magnetic                |
| Rotary Drill | 1  | 01-19 | 05:20 | 05:30 | 01-19 | 2538.00 | 2605.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 05:30 | 05:35 | 01-19 | 2605.00 | 2605.00 | Inclination (°): 0.700, Azimuth (°): 40.340, TVD (ft): 2534.92, Dogleg (°/100 ft): 0.18, Sensor Depth (ft): 2535.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 05:35 | 05:55 | 01-19 | 2605.00 | 2694.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 05:55 | 06:00 | 01-19 | 2694.00 | 2694.00 | Inclination (°): 0.840, Azimuth (°): 28.030, TVD (ft): 2623.91, Dogleg (°/100 ft): 0.24, Sensor Depth (ft): 2624.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 06:00 | 06:20 | 01-19 | 2694.00 | 2784.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 06:20 | 06:25 | 01-19 | 2784.00 | 2784.00 | Inclination (°): 1.010, Azimuth (°): 19.950, TVD (ft): 2713.90, Dogleg (°/100 ft): 0.24, Sensor Depth (ft): 2714.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 06:25 | 06:40 | 01-19 | 2784.00 | 2873.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 06:40 | 06:45 | 01-19 | 2873.00 | 2873.00 | Inclination (°): 1.010, Azimuth (°): 32.520, TVD (ft): 2802.88, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 2803.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 06:45 | 07:05 | 01-19 | 2873.00 | 2963.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 07:05 | 07:10 | 01-19 | 2963.00 | 2963.00 | Inclination (°): 1.100, Azimuth (°): 33.130, TVD (ft): 2892.87, Dogleg (°/100 ft): 0.10, Sensor Depth (ft): 2893.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 07:10 | 07:20 | 01-19 | 2963.00 | 3053.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 07:20 | 07:25 | 01-19 | 3053.00 | 3053.00 | Inclination (°): 1.100, Azimuth (°): 43.420, TVD (ft): 2982.85, Dogleg (°/100 ft): 0.22, Sensor Depth (ft): 2983.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 07:25 | 07:40 | 01-19 | 3053.00 | 3142.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 07:40 | 07:45 | 01-19 | 3142.00 | 3142.00 | Inclination (°): 1.360, Azimuth (°): 59.240, TVD (ft): 3071.83, Dogleg (°/100 ft): 0.48, Sensor Depth (ft): 3072.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 07:45 | 08:00 | 01-19 | 3142.00 | 3232.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 08:00 | 08:10 | 01-19 | 3232.00 | 3232.00 | Inclination (°): 1.670, Azimuth (°): 60.910, TVD (ft): 3161.80, Dogleg (°/100 ft): 0.35, Sensor Depth (ft): 3162.00, Bit To Sensor (ft): 70.00                                                |
| Slide Drill  | 2  | 01-19 | 08:10 | 08:20 | 01-19 | 3232.00 | 3252.00 | Pressure On (psi): 3150.00, Pressure Off (psi): 2650.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264, Toolface: 320, Toolface Type: magnetic                |
| Rotary Drill | 1  | 01-19 | 08:20 | 08:35 | 01-19 | 3252.00 | 3322.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 08:35 | 08:40 | 01-19 | 3322.00 | 3322.00 | Inclination (°): 2.110, Azimuth (°): 36.560, TVD (ft): 3251.75, Dogleg (°/100 ft): 1.01, Sensor Depth (ft): 3252.00, Bit To Sensor (ft): 70.00                                                |

|              |    |       |       |       |       |         |         |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|---------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill | 1  | 01-19 | 08:40 | 08:45 | 01-19 | 3322.00 | 3342.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Slide Drill  | 2  | 01-19 | 08:45 | 09:00 | 01-19 | 3342.00 | 3362.00 | Pressure On (psi): 3150.00, Pressure Off (psi): 2650.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264, Toolface: 235, Toolface Type: magnetic                |
| Rotary Drill | 1  | 01-19 | 09:00 | 09:10 | 01-19 | 3362.00 | 3411.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 09:10 | 09:15 | 01-19 | 3411.00 | 3411.00 | Inclination (°): 2.070, Azimuth (°): 15.640, TVD (ft): 3340.69, Dogleg (°/100 ft): 0.85, Sensor Depth (ft): 3341.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 09:15 | 09:30 | 01-19 | 3411.00 | 3501.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 09:30 | 09:35 | 01-19 | 3501.00 | 3501.00 | Inclination (°): 1.630, Azimuth (°): 7.820, TVD (ft): 3430.65, Dogleg (°/100 ft): 0.56, Sensor Depth (ft): 3431.00, Bit To Sensor (ft): 70.00                                                 |
| Rotary Drill | 1  | 01-19 | 09:35 | 10:05 | 01-19 | 3501.00 | 3591.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 10:05 | 10:10 | 01-19 | 3591.00 | 3591.00 | Inclination (°): 1.270, Azimuth (°): 13.180, TVD (ft): 3520.62, Dogleg (°/100 ft): 0.43, Sensor Depth (ft): 3521.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 10:10 | 10:45 | 01-19 | 3591.00 | 3680.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 10:45 | 10:50 | 01-19 | 3680.00 | 3680.00 | Inclination (°): 1.010, Azimuth (°): 22.320, TVD (ft): 3609.60, Dogleg (°/100 ft): 0.36, Sensor Depth (ft): 3610.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 10:50 | 11:30 | 01-19 | 3680.00 | 3770.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 11:30 | 11:35 | 01-19 | 3770.00 | 3770.00 | Inclination (°): 1.010, Azimuth (°): 20.650, TVD (ft): 3699.59, Dogleg (°/100 ft): 0.03, Sensor Depth (ft): 3700.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 11:35 | 12:10 | 01-19 | 3770.00 | 3860.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 12:10 | 12:15 | 01-19 | 3860.00 | 3860.00 | Inclination (°): 0.660, Azimuth (°): 26.360, TVD (ft): 3789.58, Dogleg (°/100 ft): 0.40, Sensor Depth (ft): 3790.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 12:15 | 12:40 | 01-19 | 3860.00 | 3949.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 12:40 | 12:45 | 01-19 | 3949.00 | 3949.00 | Inclination (°): 0.620, Azimuth (°): 40.780, TVD (ft): 3878.57, Dogleg (°/100 ft): 0.19, Sensor Depth (ft): 3879.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 12:45 | 13:05 | 01-19 | 3949.00 | 4039.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 13:05 | 13:10 | 01-19 | 4039.00 | 4039.00 | Inclination (°): 0.750, Azimuth (°): 51.940, TVD (ft): 3968.56, Dogleg (°/100 ft): 0.21, Sensor Depth (ft): 3969.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 13:10 | 13:30 | 01-19 | 4039.00 | 4128.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 13:30 | 13:35 | 01-19 | 4128.00 | 4128.00 | Inclination (°): 0.660, Azimuth (°): 75.140, TVD (ft): 4057.56, Dogleg (°/100 ft): 0.33, Sensor Depth (ft): 4058.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 13:35 | 13:45 | 01-19 | 4128.00 | 4218.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 13:45 | 13:50 | 01-19 | 4218.00 | 4218.00 | Inclination (°): 0.970, Azimuth (°): 82.530, TVD (ft): 4147.55, Dogleg (°/100 ft): 0.36, Sensor Depth (ft): 4148.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 13:50 | 14:00 | 01-19 | 4218.00 | 4308.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 14:00 | 14:05 | 01-19 | 4308.00 | 4308.00 | Inclination (°): 1.230, Azimuth (°): 94.390, TVD (ft): 4237.53, Dogleg (°/100 ft): 0.38, Sensor Depth (ft): 4238.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 14:05 | 14:15 | 01-19 | 4308.00 | 4397.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 14:15 | 14:20 | 01-19 | 4397.00 | 4397.00 | Inclination (°): 1.710, Azimuth (°): 97.380, TVD (ft): 4326.50, Dogleg (°/100 ft): 0.55, Sensor Depth (ft): 4327.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 14:20 | 14:35 | 01-19 | 4397.00 | 4487.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 14:35 | 14:40 | 01-19 | 4487.00 | 4487.00 | Inclination (°): 1.850, Azimuth (°): 92.460, TVD (ft): 4416.46, Dogleg (°/100 ft): 0.23, Sensor Depth (ft): 4417.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 14:40 | 14:45 | 01-19 | 4487.00 | 4492.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Slide Drill  | 2  | 01-19 | 14:45 | 15:00 | 01-19 | 4492.00 | 4517.00 | Pressure On (psi): 3050.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264, Toolface: 270, Toolface Type: magnetic                |
| Rotary Drill | 1  | 01-19 | 15:00 | 15:10 | 01-19 | 4517.00 | 4577.00 | Pressure On (psi): 3000.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 815.00, Strokes Per Minute: 252.00 |
| Survey       | 46 | 01-19 | 15:10 | 15:15 | 01-19 | 4577.00 | 4577.00 | Inclination (°): 1.140, Azimuth (°): 61.430, TVD (ft): 4506.43, Dogleg (°/100 ft): 1.17, Sensor Depth (ft): 4507.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 15:15 | 15:40 | 01-19 | 4577.00 | 4666.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 2550.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-19 | 15:40 | 15:45 | 01-19 | 4666.00 | 4666.00 | Inclination (°): 1.410, Azimuth (°): 18.020, TVD (ft): 4595.41, Dogleg (°/100 ft): 1.10, Sensor Depth (ft): 4596.00, Bit To Sensor (ft): 70.00                                                |

|              |    |       |       |       |       |         |         |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|---------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill | 1  | 01-19 | 15:45 | 16:10 | 01-19 | 4666.00 | 4756.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 2550.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-19 | 16:10 | 16:15 | 01-19 | 4756.00 | 4756.00 | Inclination (°): 1.190, Azimuth (°): 17.050, TVD (ft): 4685.39, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 4686.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 16:15 | 16:30 | 01-19 | 4756.00 | 4846.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 2550.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-19 | 16:30 | 16:35 | 01-19 | 4846.00 | 4846.00 | Inclination (°): 1.140, Azimuth (°): 19.510, TVD (ft): 4775.37, Dogleg (°/100 ft): 0.08, Sensor Depth (ft): 4776.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 16:35 | 16:50 | 01-19 | 4846.00 | 4935.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 2550.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-19 | 16:50 | 16:55 | 01-19 | 4935.00 | 4935.00 | Inclination (°): 1.270, Azimuth (°): 10.190, TVD (ft): 4864.35, Dogleg (°/100 ft): 0.26, Sensor Depth (ft): 4865.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 16:55 | 17:15 | 01-19 | 4935.00 | 5025.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 2550.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-19 | 17:15 | 17:20 | 01-19 | 5025.00 | 5025.00 | Inclination (°): 1.670, Azimuth (°): 14.060, TVD (ft): 4954.32, Dogleg (°/100 ft): 0.46, Sensor Depth (ft): 4955.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 17:20 | 17:40 | 01-19 | 5025.00 | 5115.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 2550.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-19 | 17:40 | 17:45 | 01-19 | 5115.00 | 5115.00 | Inclination (°): 1.800, Azimuth (°): 9.140, TVD (ft): 5044.28, Dogleg (°/100 ft): 0.22, Sensor Depth (ft): 5045.00, Bit To Sensor (ft): 70.00                                                 |
| Rotary Drill | 1  | 01-19 | 17:45 | 18:10 | 01-19 | 5115.00 | 5205.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 2550.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-19 | 18:10 | 18:15 | 01-19 | 5205.00 | 5205.00 | Inclination (°): 1.800, Azimuth (°): 8.000, TVD (ft): 5134.23, Dogleg (°/100 ft): 0.04, Sensor Depth (ft): 5135.00, Bit To Sensor (ft): 70.00                                                 |
| Rotary Drill | 1  | 01-19 | 18:15 | 18:35 | 01-19 | 5205.00 | 5294.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 2550.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-19 | 18:35 | 18:40 | 01-19 | 5294.00 | 5294.00 | Inclination (°): 1.490, Azimuth (°): 11.250, TVD (ft): 5223.20, Dogleg (°/100 ft): 0.36, Sensor Depth (ft): 5224.00, Bit To Sensor (ft): 70.00                                                |
| Rotary Drill | 1  | 01-19 | 18:40 | 18:55 | 01-19 | 5294.00 | 5365.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 2550.00, Weight On Bit (klbs): 40.00, Surface RPM: 50, Surface Torque (ft lbf): 19000.00, Flow Rate (gpm): 850.00, Strokes Per Minute: 264.00 |
| Survey       | 46 | 01-19 | 18:55 | 19:00 | 01-19 | 5362.00 | 5362.00 | Inclination (°): 1.450, Azimuth (°): 9.580, TVD (ft): 5294.17, Dogleg (°/100 ft): 0.08, Sensor Depth (ft): 5295.00, Bit To Sensor (ft): 67.00                                                 |
| Circulating  | 3  | 01-19 | 19:00 | 20:20 | 01-19 |         |         | Circulate                                                                                                                                                                                     |
| Backreaming  | 24 | 01-19 | 20:20 | 23:15 | 01-19 |         |         | Backreaming F/ 5365' T/3800'                                                                                                                                                                  |
| TIH          | 8  | 01-19 | 23:15 | 00:15 | 01-20 |         |         | TIH T/ 5365'                                                                                                                                                                                  |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

Monday, Jan 20 00:00 - 23:59 (Day 5 of 20)

Billing: \$5,600.00 (\$247,830.92 total)

| Drilling Summary        |      |                     |      | Drilling Parameters       |                 |
|-------------------------|------|---------------------|------|---------------------------|-----------------|
| Start Depth (ft)        |      | Downhole Hours      | 6.00 | Rotating WOB (klbs)       |                 |
| Bit Depth (ft)          |      | Drilling Hours      | 0.00 | Sliding WOB (klbs)        |                 |
| Bottom Hole Depth (ft)  |      | Hours Circulating   | 1.00 | Rotating SPM              |                 |
| Total Distance (ft)     | 0.00 | Hours Sliding       | 0.00 | Sliding SPM               |                 |
| Distance Rotated (ft)   | 0.00 | Hours Rotating      | 0.00 | Motor RPM                 | 130.00 - 160.00 |
| Distance Slid (ft)      | 0.00 |                     |      | Surface RPM               |                 |
| Inclination In          |      |                     |      | Flow Rate (gpm)           |                 |
| Inclination Out         |      |                     |      | On Bottom Pressure (psi)  |                 |
| Azimuth In              |      | % Hours Rotating    |      | Off Bottom Pressure (psi) |                 |
| Azimuth Out             |      | % Hours Sliding     |      |                           |                 |
| AVG Total ROP (ft/h)    | 0.00 | % Distance Sliding  |      |                           |                 |
| AVG Rotating ROP (ft/h) | 0.00 | % Distance Rotating |      |                           |                 |
| AVG Sliding ROP (ft/h)  | 0.00 |                     |      |                           |                 |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #2 - Intermediate 12.25"

Date In: Jan 19, 2020, 0:30 Date Out: Jan 20, 2020, 6:00

| Bit Details                |         | Motor Details                                                 |          | Directional Comments                                                           |
|----------------------------|---------|---------------------------------------------------------------|----------|--------------------------------------------------------------------------------|
| OD (in)                    | 12.250  | Size (in)                                                     | 8.0      | Flow Rate: 400-900, Max Diff: 1390 psi, Max Torque: 21,870 ft-lbs, BIT Runs:0  |
| Vendor                     | ULTERRA | Lobe/Stage                                                    | 7/8, 5.9 |                                                                                |
| S/N                        | 51306   | Bend Angle                                                    | 1.5      |                                                                                |
| Nozzles                    | 6-12's  | Speed (rev/gal)                                               | 0.16     | MWD Comments                                                                   |
| Total Flow Area (in²)      | 0.663   | Wear Pad OD (in)                                              | 8.375    | <div>POOH Reason</div> <div>Total Depth/Casing Point: POOH to run casing</div> |
| Drilling Hours for Day     | 0.00    | Bit Distances                                                 |          |                                                                                |
| Total Drilled for Day (ft) |         | Bend (Bit to Bend): 6.00 ft, Survey (Bit to Survey): 70.00 ft |          |                                                                                |
| Drilling Hours for BHA     | 14.42   |                                                               |          |                                                                                |
| Total Drilled for BHA (ft) | 3606.00 |                                                               |          |                                                                                |

## Directional Items

| Description                                                                                                                                           | Vendor  | SN#          | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: SPL616, Style: PDC, Gauge Length (in): 3.00, Size (in): 12.25                                                              | ULTERRA | 51306        | 6 5/8" Reg Pin |                |         | 12.250  |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 7/8, 5.9 FXD 1.5° w/ 12" NBS, Size (in): 8.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5.9 | BUTCH'S | BDT 800-019  | 6 5/8" Reg Box | 6 5/8" Reg Box |         | 8.000   |              | 37.57    | 38.57          |
| <b>Stabilizer</b><br>Description: 12" IB STAB                                                                                                         | GTI     | GT801176     | 6 5/8" Reg Box | 6 5/8" Reg Pin | 2.875   | 8.010   |              | 8.02     | 46.59          |
| <b>UBHO Sub</b><br>Description: 8" UBHO SUB, Type: NM                                                                                                 | GTI     | GT 8066774   | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.500   | 8.050   |              | 3.45     | 50.04          |
| <b>Drill Collar</b><br>Description: 8" MWD NMDC, Style: Slick Drill, Type: NM                                                                         | GTI     | GT 80-30-285 | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.313   | 8.050   |              | 31.13    | 81.17          |
| <b>Drill Collar</b><br>Description: 8" NMDC, Style: Slick Drill, Type: NM                                                                             | GTI     | GT 80-30-208 | 6 5/8" Reg Box | 6 5/8" Reg Pin | 3.313   | 8.010   |              | 31.02    | 112.19         |
| <b>Crossover Sub</b><br>Description: X-O SUB, Type: Steel                                                                                             | BD      | BD 15381     | EverDrlg54 Box | 6 5/8" Reg Pin | 2.875   | 8.250   |              | 3.90     | 116.09         |
| <b>HWDP</b><br>Description: 15 Stands of 5.5" HWDP, Style: Slick                                                                                      | Rig     |              | EverDrlg54 Box | EverDrlg54 Pin | 3.875   | 6.688   |              | 1413.66  | 1529.75        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details                        |
|---------------|------|------------|------------|----------|----------|------------|----------|-----------------------------------------|
| TIH           | 8    | 01-19      | 23:15      | 00:15    | 01-20    |            |          | TIH T/ 5365'                            |
| Circulating   | 3    | 01-20      | 00:15      | 01:15    | 01-20    |            |          | Circulate                               |
| Pooh          | 7    | 01-20      | 01:15      | 04:00    | 01-20    |            |          | POOH                                    |
| Other         | 16   | 01-20      | 04:00      | 06:00    | 01-20    |            |          | L/D BHA                                 |
| Standby       | 15   | 01-20      | 06:00      | 22:00    | 01-20    |            |          | Standby- Casing OPs / Skid Rig to #501H |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

Tuesday, Jan 28 00:00 - 23:59 (Day 6 of 20)

Billing: \$11,176.75 (\$247,830.92 total)

| Drilling Summary        |         |                     |       | Drilling Parameters       |                   |
|-------------------------|---------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 5365.00 | Downhole Hours      | 16.00 | Rotating WOB (klbs)       | 36.00 - 45.00     |
| Bit Depth (ft)          | 7433.00 | Drilling Hours      | 8.42  | Sliding WOB (klbs)        | 20.00 - 25.00     |
| Bottom Hole Depth (ft)  | 7433.00 | Hours Circulating   | 1.42  | Rotating SPM              | 216.00 - 228.00   |
| Total Distance (ft)     | 2068.00 | Hours Sliding       | 0.42  | Sliding SPM               | 216.00 - 228.00   |
| Distance Rotated (ft)   | 2036.00 | Hours Rotating      | 8.00  | Motor RPM                 | 182.00 - 182.00   |
| Distance Slid (ft)      | 32.00   |                     |       | Surface RPM               | 30.00 - 50.00     |
| Inclination In          | 1.67    |                     |       | Flow Rate (gpm)           | 700.00 - 730.00   |
| Inclination Out         | 1.49    |                     |       | On Bottom Pressure (psi)  | 2473.00 - 3300.00 |
| Azimuth In              | 359.38  | % Hours Rotating    | 95%   | Off Bottom Pressure (psi) | 2031.00 - 2800.00 |
| Azimuth Out             | 243.19  | % Hours Sliding     | 5%    |                           |                   |
| AVG Total ROP (ft/h)    | 239.78  | % Distance Sliding  | 2%    |                           |                   |
| AVG Rotating ROP (ft/h) | 247.69  | % Distance Rotating | 98%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 76.80   |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #3 - BHA #3 (8.5" Intermediate)

Date In: Jan 28, 2020, 8:00 Date Out: Jan 30, 2020, 1:30

| Bit Details                |                 | Motor Details                                                                                 |          | Directional Comments                                                                                                                                                            |
|----------------------------|-----------------|-----------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500           | Size (in)                                                                                     | 7.0      | 1.5° FBH 7/8 8.5 Stg Mtr. w/ 8.25" Stab / Flow Rate: 350-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs / BIT: Ulterra RPS616 SN: 49305 Jets: 3x15, 3x16 TFA: 1.106 Runs: 2 |
| Vendor                     | Ulterra         | Lobe/Stage                                                                                    | 7/8, 8.5 |                                                                                                                                                                                 |
| S/N                        | 49305           | Bend Angle                                                                                    | 1.5      |                                                                                                                                                                                 |
| Nozzles                    | 3 x 16 / 3 x 15 | Speed (rev/gal)                                                                               | 0.26     |                                                                                                                                                                                 |
| Total Flow Area (in²)      | 1.106           | Wear Pad OD (in)                                                                              | 7.125    | MWD Comments                                                                                                                                                                    |
| Drilling Hours for Day     | 8.42            | Bit Distances                                                                                 |          | POOH Reason<br>Total Depth/Casing Point: Reached KOP                                                                                                                            |
| Total Drilled for Day (ft) | 2068.00         | Bend (Bit to Bend): 5.25 ft, Survey (Bit to Survey): 67.00 ft, Gamma (Bit to Gamma): 52.00 ft |          |                                                                                                                                                                                 |
| Drilling Hours for BHA     | 25.25           |                                                                                               |          |                                                                                                                                                                                 |
| Total Drilled for BHA (ft) | 4265.00         |                                                                                               |          |                                                                                                                                                                                 |

## Directional Items

| Description                                                                                                                                                     | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: RPS616, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50                                                                         | Ulterra       | 49305      | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.25     | 1.25           |
| <b>Mud Motor</b><br>Description: 1.5° FBH 7/8 8.5 Stg Mtr w/ 8.25" Stab, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5 | AIM           | 700-40-024 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.23    | 37.48          |
| <b>Stabilizer</b><br>Description: 8.25" NM Stabilizer                                                                                                           | Gator         | DR43605    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.813   | 6.688   |              | 5.19     | 42.67          |
| <b>UBHO Sub</b><br>Description: UBHO Sub, Type: NM                                                                                                              | AIM           | 675-124    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.875   | 6.750   |              | 2.11     | 44.78          |
| <b>Drill Collar</b><br>Description: NMDC (MWD tool), Style: Slick Drill, Type: NM                                                                               | DTI           | DR33250    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.750   |              | 28.76    | 73.54          |
| <b>Drill Collar</b><br>Description: NMDC (Spacer), Style: Slick Drill, Type: NM                                                                                 | DTI           | DR29426    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.188   | 6.750   |              | 28.73    | 102.27         |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                    | Black Diamond | BD12360    | EverDrg54 Box  | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 105.82         |
| <b>HWDP</b><br>Description: (15 Stands) 5.5" HWDP, Style: Slick                                                                                                 | RIG           |            | EverDrg54 Box  | EverDrg54 Pin  | 4.000   | 5.500   |              | 1413.66  | 1519.48        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details                                       |
|---------------|------|------------|------------|----------|----------|------------|----------|--------------------------------------------------------|
| Standby       | 15   | 01-28      | 00:00      | 08:00    | 01-28    |            |          | Standby while skidding and testing BOP.                |
| Change BHA    | 6    | 01-28      | 08:00      | 08:50    | 01-28    |            |          | P/U BHA # 3 / M/U Bit / Scribe and P/U MWD tool        |
| Circulating   | 3    | 01-28      | 08:50      | 09:00    | 01-28    |            |          | Test MWD tool & Motor (Good Test 440 psi @ 80 Strokes) |
| TIH           | 8    | 01-28      | 09:00      | 10:30    | 01-28    |            |          | TIH W/ BHA #3                                          |
| Circulating   | 3    | 01-28      | 10:30      | 11:00    | 01-28    |            |          | Drill out DV Tool and Contingency Ring.                |

|                 |    |       |       |       |       |         |         |                                                                                                                                                                                           |
|-----------------|----|-------|-------|-------|-------|---------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other           | 16 | 01-28 | 11:00 | 11:30 | 01-28 |         |         | Preform Casing Test @ 1500 psi for 30 Min.                                                                                                                                                |
| TIH             | 8  | 01-28 | 11:30 | 12:45 | 01-28 |         |         | TIH W/ BHA #3                                                                                                                                                                             |
| Drilling Cement | 17 | 01-28 | 12:45 | 13:30 | 01-28 | 5365.00 | 5365.00 | Drilling Cement and Float Equipment                                                                                                                                                       |
| Rotary Drill    | 1  | 01-28 | 13:30 | 14:00 | 01-28 | 5365.00 | 5463.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 36.00, Surface RPM: 45, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 14:00 | 14:05 | 01-28 | 5463.00 | 5463.00 | Inclination (°): 1.670, Azimuth (°): 359.380, TVD (ft): 5395.13, Dogleg (°/100 ft): 0.35, Sensor Depth (ft): 5396.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 14:05 | 14:30 | 01-28 | 5463.00 | 5552.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 36.00, Surface RPM: 45, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 14:30 | 14:35 | 01-28 | 5552.00 | 5552.00 | Inclination (°): 1.760, Azimuth (°): 359.560, TVD (ft): 5484.09, Dogleg (°/100 ft): 0.10, Sensor Depth (ft): 5485.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 14:35 | 14:45 | 01-28 | 5552.00 | 5567.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Slide Drill     | 2  | 01-28 | 14:45 | 15:00 | 01-28 | 5567.00 | 5587.00 | Pressure On (psi): 2700.00, Pressure Off (psi): 2300.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 216, Toolface: 300, Toolface Type: magnetic            |
| Rotary Drill    | 1  | 01-28 | 15:00 | 15:15 | 01-28 | 5587.00 | 5627.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 15:15 | 15:20 | 01-28 | 5642.00 | 5642.00 | Inclination (°): 2.460, Azimuth (°): 336.270, TVD (ft): 5574.03, Dogleg (°/100 ft): 1.21, Sensor Depth (ft): 5575.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 15:20 | 15:50 | 01-28 | 5627.00 | 5732.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 15:50 | 15:55 | 01-28 | 5732.00 | 5732.00 | Inclination (°): 3.600, Azimuth (°): 327.570, TVD (ft): 5663.91, Dogleg (°/100 ft): 1.36, Sensor Depth (ft): 5665.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 15:55 | 16:15 | 01-28 | 5732.00 | 5821.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 16:15 | 16:20 | 01-28 | 5821.00 | 5821.00 | Inclination (°): 3.380, Azimuth (°): 326.600, TVD (ft): 5752.74, Dogleg (°/100 ft): 0.26, Sensor Depth (ft): 5754.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 16:20 | 16:45 | 01-28 | 5821.00 | 5911.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 16:45 | 16:50 | 01-28 | 5911.00 | 5911.00 | Inclination (°): 3.030, Azimuth (°): 325.020, TVD (ft): 5842.60, Dogleg (°/100 ft): 0.40, Sensor Depth (ft): 5844.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 16:50 | 17:05 | 01-28 | 5911.00 | 6000.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 17:05 | 17:10 | 01-28 | 6000.00 | 6000.00 | Inclination (°): 2.810, Azimuth (°): 325.020, TVD (ft): 5931.49, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 5933.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 17:10 | 17:30 | 01-28 | 6000.00 | 6090.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 17:30 | 17:35 | 01-28 | 6090.00 | 6090.00 | Inclination (°): 2.640, Azimuth (°): 323.520, TVD (ft): 6021.38, Dogleg (°/100 ft): 0.20, Sensor Depth (ft): 6023.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 17:35 | 17:45 | 01-28 | 6090.00 | 6179.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 17:45 | 17:50 | 01-28 | 6179.00 | 6179.00 | Inclination (°): 2.420, Azimuth (°): 321.410, TVD (ft): 6110.30, Dogleg (°/100 ft): 0.27, Sensor Depth (ft): 6112.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 17:50 | 18:05 | 01-28 | 6179.00 | 6269.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 18:05 | 18:10 | 01-28 | 6269.00 | 6269.00 | Inclination (°): 2.550, Azimuth (°): 321.330, TVD (ft): 6200.21, Dogleg (°/100 ft): 0.14, Sensor Depth (ft): 6202.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 18:10 | 18:25 | 01-28 | 6269.00 | 6358.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 18:25 | 18:30 | 01-28 | 6358.00 | 6358.00 | Inclination (°): 2.550, Azimuth (°): 320.270, TVD (ft): 6289.13, Dogleg (°/100 ft): 0.05, Sensor Depth (ft): 6291.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 18:30 | 18:50 | 01-28 | 6358.00 | 6448.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 18:50 | 18:55 | 01-28 | 6448.00 | 6448.00 | Inclination (°): 2.590, Azimuth (°): 320.180, TVD (ft): 6379.03, Dogleg (°/100 ft): 0.04, Sensor Depth (ft): 6381.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 18:55 | 19:10 | 01-28 | 6448.00 | 6538.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 19:10 | 19:15 | 01-28 | 6538.00 | 6538.00 | Inclination (°): 2.590, Azimuth (°): 320.970, TVD (ft): 6468.94, Dogleg (°/100 ft): 0.04, Sensor Depth (ft): 6471.00, Bit To Sensor (ft): 67.00                                           |
| Rotary Drill    | 1  | 01-28 | 19:15 | 19:30 | 01-28 | 6538.00 | 6627.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |
| Survey          | 46 | 01-28 | 19:30 | 19:35 | 01-28 | 6627.00 | 6627.00 | Inclination (°): 2.420, Azimuth (°): 317.020, TVD (ft): 6557.86, Dogleg (°/100 ft): 0.27, Sensor Depth (ft): 6560.00, Bit To Sensor (ft): 67.00                                           |
| Slide Drill     | 2  | 01-28 | 19:35 | 19:45 | 01-28 | 6627.00 | 6639.00 | Pressure On (psi): 2900.00, Pressure Off (psi): 2600.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 730.00, Strokes Per Minute: 228, Toolface: 180, Toolface Type: magnetic            |
| Rotary Drill    | 1  | 01-28 | 19:45 | 20:00 | 01-28 | 6639.00 | 6717.00 | Pressure On (psi): 2473.00, Pressure Off (psi): 2031.00, Weight On Bit (klbs): 40.00, Surface RPM: 40, Surface Torque (ft lbf): 9.20, Flow Rate (gpm): 700.00, Strokes Per Minute: 216.00 |

|              |    |       |       |       |       |         |         |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|---------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Survey       | 46 | 01-28 | 20:00 | 20:05 | 01-28 | 6717.00 | 6717.00 | Inclination (°): 1.580, Azimuth (°): 275.180, TVD (ft): 6647.81, Dogleg (°/100 ft): 1.81, Sensor Depth (ft): 6650.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-28 | 20:05 | 20:25 | 01-28 | 6717.00 | 6806.00 | Pressure On (psi): 3300.00, Pressure Off (psi): 2800.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 13000.00, Flow Rate (gpm): 730.00, Strokes Per Minute: 228.00 |
| Survey       | 46 | 01-28 | 20:25 | 20:30 | 01-28 | 6806.00 | 6806.00 | Inclination (°): 1.850, Azimuth (°): 259.360, TVD (ft): 6736.77, Dogleg (°/100 ft): 0.61, Sensor Depth (ft): 6739.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-28 | 20:30 | 20:50 | 01-28 | 6806.00 | 6896.00 | Pressure On (psi): 3300.00, Pressure Off (psi): 2800.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 13000.00, Flow Rate (gpm): 730.00, Strokes Per Minute: 228.00 |
| Survey       | 46 | 01-28 | 20:50 | 20:55 | 01-28 | 6896.00 | 6896.00 | Inclination (°): 1.850, Azimuth (°): 263.230, TVD (ft): 6826.72, Dogleg (°/100 ft): 0.14, Sensor Depth (ft): 6829.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-28 | 20:55 | 21:05 | 01-28 | 6896.00 | 6985.00 | Pressure On (psi): 3300.00, Pressure Off (psi): 2800.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 13000.00, Flow Rate (gpm): 730.00, Strokes Per Minute: 228.00 |
| Survey       | 46 | 01-28 | 21:05 | 21:10 | 01-28 | 6985.00 | 6985.00 | Inclination (°): 1.760, Azimuth (°): 262.180, TVD (ft): 6915.68, Dogleg (°/100 ft): 0.11, Sensor Depth (ft): 6918.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-28 | 21:10 | 21:30 | 01-28 | 6985.00 | 7075.00 | Pressure On (psi): 3300.00, Pressure Off (psi): 2800.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 13000.00, Flow Rate (gpm): 730.00, Strokes Per Minute: 228.00 |
| Survey       | 46 | 01-28 | 21:30 | 21:35 | 01-28 | 7075.00 | 7075.00 | Inclination (°): 1.800, Azimuth (°): 261.120, TVD (ft): 7005.63, Dogleg (°/100 ft): 0.06, Sensor Depth (ft): 7008.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-28 | 21:35 | 22:00 | 01-28 | 7075.00 | 7164.00 |                                                                                                                                                                                               |
| Survey       | 46 | 01-28 | 22:00 | 22:05 | 01-28 | 7164.00 | 7164.00 | Inclination (°): 1.710, Azimuth (°): 254.090, TVD (ft): 7094.59, Dogleg (°/100 ft): 0.26, Sensor Depth (ft): 7097.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-28 | 22:05 | 22:30 | 01-28 | 7164.00 | 7254.00 | Pressure On (psi): 3300.00, Pressure Off (psi): 2400.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 730.00, Strokes Per Minute: 228.00 |
| Survey       | 46 | 01-28 | 22:30 | 22:35 | 01-28 | 7254.00 | 7254.00 | Inclination (°): 1.580, Azimuth (°): 248.200, TVD (ft): 7184.55, Dogleg (°/100 ft): 0.24, Sensor Depth (ft): 7187.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-28 | 22:35 | 23:05 | 01-28 | 7254.00 | 7344.00 | Pressure On (psi): 3300.00, Pressure Off (psi): 2400.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 730.00, Strokes Per Minute: 228.00 |
| Survey       | 46 | 01-28 | 23:05 | 23:10 | 01-28 | 7344.00 | 7344.00 | Inclination (°): 1.360, Azimuth (°): 252.770, TVD (ft): 7274.52, Dogleg (°/100 ft): 0.28, Sensor Depth (ft): 7277.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-28 | 23:10 | 23:45 | 01-28 | 7344.00 | 7433.00 | Pressure On (psi): 3300.00, Pressure Off (psi): 2400.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 730.00, Strokes Per Minute: 228.00 |
| Survey       | 46 | 01-28 | 23:45 | 23:50 | 01-28 | 7433.00 | 7433.00 | Inclination (°): 1.490, Azimuth (°): 243.190, TVD (ft): 7363.50, Dogleg (°/100 ft): 0.30, Sensor Depth (ft): 7366.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-28 | 23:50 | 00:25 | 01-29 | 7433.00 | 7523.00 | Pressure On (psi): 3300.00, Pressure Off (psi): 2400.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 730.00, Strokes Per Minute: 228.00 |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

Wednesday, Jan 29 00:00 - 23:59 (Day 7 of 20)

Billing: \$10,438.00 (\$247,830.92 total)

| Drilling Summary        |         |                     |       | Drilling Parameters       |                   |
|-------------------------|---------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 7433.00 | Downhole Hours      | 24.00 | Rotating WOB (klbs)       | 40.00 - 40.00     |
| Bit Depth (ft)          | 9630.00 | Drilling Hours      | 16.83 | Sliding WOB (klbs)        | 25.00 - 25.00     |
| Bottom Hole Depth (ft)  | 9630.00 | Hours Circulating   | 0.00  | Rotating SPM              | 204.00 - 228.00   |
| Total Distance (ft)     | 2197.00 | Hours Sliding       | 0.33  | Sliding SPM               | 204.00 - 204.00   |
| Distance Rotated (ft)   | 2182.00 | Hours Rotating      | 16.50 | Motor RPM                 | 182.00 - 182.00   |
| Distance Slid (ft)      | 15.00   |                     |       | Surface RPM               | 30.00 - 30.00     |
| Inclination In          | 1.54    |                     |       | Flow Rate (gpm)           | 650.00 - 730.00   |
| Inclination Out         | 1.54    |                     |       | On Bottom Pressure (psi)  | 2400.00 - 3300.00 |
| Azimuth In              | 237.74  | % Hours Rotating    | 98%   | Off Bottom Pressure (psi) | 2050.00 - 2400.00 |
| Azimuth Out             | 222.01  | % Hours Sliding     | 2%    |                           |                   |
| AVG Total ROP (ft/h)    | 130.51  | % Distance Sliding  | 1%    |                           |                   |
| AVG Rotating ROP (ft/h) | 132.24  | % Distance Rotating | 99%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 45.00   |                     |       |                           |                   |

**Personnel**

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

**BHA #3 - BHA #3 (8.5" Intermediate)**

Date In: Jan 28, 2020, 8:00 Date Out: Jan 30, 2020, 1:30

| Bit Details                |                 | Motor Details                                                                                 |          | Directional Comments                                                                                                                                                            |
|----------------------------|-----------------|-----------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500           | Size (in)                                                                                     | 7.0      | 1.5° FBH 7/8 8.5 Stg Mtr. w/ 8.25" Stab / Flow Rate: 350-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs / BIT: Ulterra RPS616 SN: 49305 Jets: 3x15, 3x16 TFA: 1.106 Runs: 2 |
| Vendor                     | Ulterra         | Lobe/Stage                                                                                    | 7/8, 8.5 |                                                                                                                                                                                 |
| S/N                        | 49305           | Bend Angle                                                                                    | 1.5      |                                                                                                                                                                                 |
| Nozzles                    | 3 x 16 / 3 x 15 | Speed (rev/gal)                                                                               | 0.26     |                                                                                                                                                                                 |
| Total Flow Area (in²)      | 1.106           | Wear Pad OD (in)                                                                              | 7.125    | MWD Comments                                                                                                                                                                    |
| Drilling Hours for Day     | 16.83           | Bit Distances                                                                                 |          |                                                                                                                                                                                 |
| Total Drilled for Day (ft) | 2197.00         | Bend (Bit to Bend): 5.25 ft, Survey (Bit to Survey): 67.00 ft, Gamma (Bit to Gamma): 52.00 ft |          |                                                                                                                                                                                 |
| Drilling Hours for BHA     | 25.25           |                                                                                               |          | POOH Reason                                                                                                                                                                     |
| Total Drilled for BHA (ft) | 4265.00         |                                                                                               |          |                                                                                                                                                                                 |
|                            |                 |                                                                                               |          | Total Depth/Casing Point: Reached KOP                                                                                                                                           |

**Directional Items**

| Description                                                                                                                                                     | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: RPS616, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50                                                                         | Ulterra       | 49305      | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.25     | 1.25           |
| <b>Mud Motor</b><br>Description: 1.5° FBH 7/8 8.5 Stg Mtr w/ 8.25" Stab, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5 | AIM           | 700-40-024 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.23    | 37.48          |
| <b>Stabilizer</b><br>Description: 8.25" NM Stabilizer                                                                                                           | Gator         | DR43605    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.813   | 6.688   |              | 5.19     | 42.67          |
| <b>UBHO Sub</b><br>Description: UBHO Sub, Type: NM                                                                                                              | AIM           | 675-124    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.875   | 6.750   |              | 2.11     | 44.78          |
| <b>Drill Collar</b><br>Description: NMDC (MWD tool), Style: Slick Drill, Type: NM                                                                               | DTI           | DR33250    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.750   |              | 28.76    | 73.54          |
| <b>Drill Collar</b><br>Description: NMDC (Spacer), Style: Slick Drill, Type: NM                                                                                 | DTI           | DR29426    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.188   | 6.750   |              | 28.73    | 102.27         |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                    | Black Diamond | BD12360    | EverDrg54 Box  | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 105.82         |
| <b>HWDP</b><br>Description: (15 Stands) 5.5" HWDP, Style: Slick                                                                                                 | RIG           |            | EverDrg54 Box  | EverDrg54 Pin  | 4.000   | 5.500   |              | 1413.66  | 1519.48        |

**MWD Items**

No Items

**Directional Activities**

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details                                                                                                                                                                              |
|---------------|------|------------|------------|----------|----------|------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill  | 1    | 01-28      | 23:50      | 00:25    | 01-29    | 7433.00    | 7523.00  | Pressure On (psi): 3300.00, Pressure Off (psi): 2400.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 730.00, Strokes Per Minute: 228.00 |
| Survey        | 46   | 01-29      | 00:25      | 00:30    | 01-29    | 7523.00    | 7523.00  | Inclination (°): 1.540, Azimuth (°): 237.740, TVD (ft): 7453.47, Dogleg (°/100 ft): 0.17, Sensor Depth (ft): 7456.00, Bit To Sensor (ft): 67.00                                               |

|              |    |       |       |       |       |         |         |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|---------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill | 1  | 01-29 | 00:30 | 01:05 | 01-29 | 7523.00 | 7613.00 | Pressure On (psi): 3300.00, Pressure Off (psi): 2400.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 730.00, Strokes Per Minute: 228.00 |
| Survey       | 46 | 01-29 | 01:05 | 01:10 | 01-29 | 7613.00 | 7613.00 | Inclination (°): 1.540, Azimuth (°): 235.630, TVD (ft): 7543.43, Dogleg (°/100 ft): 0.06, Sensor Depth (ft): 7546.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 01:10 | 01:40 | 01-29 | 7613.00 | 7703.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 01:40 | 01:45 | 01-29 | 7703.00 | 7703.00 | Inclination (°): 1.630, Azimuth (°): 237.390, TVD (ft): 7633.40, Dogleg (°/100 ft): 0.11, Sensor Depth (ft): 7636.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 01:45 | 02:15 | 01-29 | 7703.00 | 7792.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 02:15 | 02:20 | 01-29 | 7792.00 | 7792.00 | Inclination (°): 1.490, Azimuth (°): 238.360, TVD (ft): 7722.37, Dogleg (°/100 ft): 0.16, Sensor Depth (ft): 7725.00, Bit To Sensor (ft): 67.00                                               |
| Slide Drill  | 2  | 01-29 | 02:20 | 02:40 | 01-29 | 7792.00 | 7807.00 | Pressure On (psi): 2400.00, Pressure Off (psi): 2050.00, Weight On Bit (klbs): 25.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204, Toolface: 60, Toolface Type: magnetic                 |
| Rotary Drill | 1  | 01-29 | 02:40 | 03:00 | 01-29 | 7807.00 | 7881.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 03:00 | 03:05 | 01-29 | 7881.00 | 7881.00 | Inclination (°): 0.620, Azimuth (°): 306.380, TVD (ft): 7811.35, Dogleg (°/100 ft): 1.55, Sensor Depth (ft): 7814.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 03:05 | 03:35 | 01-29 | 7881.00 | 7971.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 03:35 | 03:40 | 01-29 | 7971.00 | 7971.00 | Inclination (°): 0.570, Azimuth (°): 326.770, TVD (ft): 7901.35, Dogleg (°/100 ft): 0.24, Sensor Depth (ft): 7904.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 03:40 | 04:25 | 01-29 | 7971.00 | 8060.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 04:25 | 04:30 | 01-29 | 8060.00 | 8060.00 | Inclination (°): 0.620, Azimuth (°): 299.970, TVD (ft): 7990.34, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 7993.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 04:30 | 05:00 | 01-29 | 8060.00 | 8150.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 05:00 | 05:05 | 01-29 | 8150.00 | 8150.00 | Inclination (°): 0.700, Azimuth (°): 285.470, TVD (ft): 8080.34, Dogleg (°/100 ft): 0.21, Sensor Depth (ft): 8083.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 05:05 | 05:50 | 01-29 | 8150.00 | 8240.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 05:50 | 05:55 | 01-29 | 8240.00 | 8240.00 | Inclination (°): 0.530, Azimuth (°): 271.050, TVD (ft): 8170.33, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 8173.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 05:55 | 06:30 | 01-29 | 8240.00 | 8329.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 06:30 | 06:35 | 01-29 | 8329.00 | 8329.00 | Inclination (°): 0.480, Azimuth (°): 265.340, TVD (ft): 8259.33, Dogleg (°/100 ft): 0.08, Sensor Depth (ft): 8262.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 06:35 | 07:10 | 01-29 | 8329.00 | 8419.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 07:10 | 07:15 | 01-29 | 8419.00 | 8419.00 | Inclination (°): 0.620, Azimuth (°): 278.080, TVD (ft): 8349.32, Dogleg (°/100 ft): 0.21, Sensor Depth (ft): 8352.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 07:15 | 07:40 | 01-29 | 8419.00 | 8508.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 07:40 | 07:45 | 01-29 | 8508.00 | 8508.00 | Inclination (°): 0.530, Azimuth (°): 270.090, TVD (ft): 8438.32, Dogleg (°/100 ft): 0.14, Sensor Depth (ft): 8441.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 07:45 | 08:30 | 01-29 | 8508.00 | 8598.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 08:30 | 08:35 | 01-29 | 8598.00 | 8598.00 | Inclination (°): 0.660, Azimuth (°): 257.870, TVD (ft): 8528.31, Dogleg (°/100 ft): 0.20, Sensor Depth (ft): 8531.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 08:35 | 09:10 | 01-29 | 8598.00 | 8687.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 09:10 | 09:15 | 01-29 | 8687.00 | 8687.00 | Inclination (°): 0.660, Azimuth (°): 256.550, TVD (ft): 8617.31, Dogleg (°/100 ft): 0.02, Sensor Depth (ft): 8620.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 09:15 | 10:05 | 01-29 | 8687.00 | 8777.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 10:05 | 10:10 | 01-29 | 8777.00 | 8777.00 | Inclination (°): 0.790, Azimuth (°): 248.110, TVD (ft): 8707.30, Dogleg (°/100 ft): 0.19, Sensor Depth (ft): 8710.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 10:10 | 11:00 | 01-29 | 8777.00 | 8866.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 11:00 | 11:05 | 01-29 | 8866.00 | 8866.00 | Inclination (°): 0.920, Azimuth (°): 232.820, TVD (ft): 8796.29, Dogleg (°/100 ft): 0.29, Sensor Depth (ft): 8799.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 11:05 | 12:05 | 01-29 | 8866.00 | 8956.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 12:05 | 12:10 | 01-29 | 8956.00 | 8956.00 | Inclination (°): 0.970, Azimuth (°): 229.040, TVD (ft): 8886.28, Dogleg (°/100 ft): 0.09, Sensor Depth (ft): 8889.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 12:10 | 13:05 | 01-29 | 8956.00 | 9046.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |

|              |    |       |       |       |       |         |         |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|---------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Survey       | 46 | 01-29 | 13:05 | 13:10 | 01-29 | 9046.00 | 9046.00 | Inclination (°): 0.920, Azimuth (°): 219.200, TVD (ft): 8976.27, Dogleg (°/100 ft): 0.19, Sensor Depth (ft): 8979.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 13:10 | 14:00 | 01-29 | 9046.00 | 9135.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 14:00 | 14:05 | 01-29 | 9135.00 | 9135.00 | Inclination (°): 0.880, Azimuth (°): 194.590, TVD (ft): 9065.26, Dogleg (°/100 ft): 0.43, Sensor Depth (ft): 9068.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 14:05 | 14:55 | 01-29 | 9135.00 | 9225.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 14:55 | 15:00 | 01-29 | 9225.00 | 9225.00 | Inclination (°): 1.100, Azimuth (°): 186.590, TVD (ft): 9155.24, Dogleg (°/100 ft): 0.29, Sensor Depth (ft): 9158.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 15:00 | 15:50 | 01-29 | 9225.00 | 9314.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 15:50 | 15:55 | 01-29 | 9314.00 | 9314.00 | Inclination (°): 1.050, Azimuth (°): 186.680, TVD (ft): 9244.23, Dogleg (°/100 ft): 0.06, Sensor Depth (ft): 9247.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 15:55 | 16:45 | 01-29 | 9314.00 | 9404.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 16:45 | 16:50 | 01-29 | 9404.00 | 9404.00 | Inclination (°): 1.230, Azimuth (°): 214.100, TVD (ft): 9334.21, Dogleg (°/100 ft): 0.63, Sensor Depth (ft): 9337.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 16:50 | 17:35 | 01-29 | 9404.00 | 9494.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 17:35 | 17:40 | 01-29 | 9494.00 | 9494.00 | Inclination (°): 1.800, Azimuth (°): 230.010, TVD (ft): 9424.18, Dogleg (°/100 ft): 0.78, Sensor Depth (ft): 9427.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 17:40 | 18:20 | 01-29 | 9494.00 | 9583.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 18:20 | 18:25 | 01-29 | 9583.00 | 9583.00 | Inclination (°): 1.760, Azimuth (°): 234.050, TVD (ft): 9513.14, Dogleg (°/100 ft): 0.15, Sensor Depth (ft): 9516.00, Bit To Sensor (ft): 67.00                                               |
| Rotary Drill | 1  | 01-29 | 18:25 | 18:40 | 01-29 | 9583.00 | 9630.00 | Pressure On (psi): 2750.00, Pressure Off (psi): 2100.00, Weight On Bit (klbs): 40.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey       | 46 | 01-29 | 18:40 | 18:45 | 01-29 | 9630.00 | 9630.00 | Inclination (°): 1.540, Azimuth (°): 222.010, TVD (ft): 9560.12, Dogleg (°/100 ft): 0.87, Sensor Depth (ft): 9563.00, Bit To Sensor (ft): 67.00                                               |
| Pooh         | 7  | 01-29 | 18:45 | 23:15 | 01-29 |         |         | POOH                                                                                                                                                                                          |
| Change BHA   | 6  | 01-29 | 23:15 | 01:30 | 01-30 |         |         | P/U BHA # 4                                                                                                                                                                                   |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

Thursday, Jan 30 00:00 - 23:59 (Day 8 of 20)

Billing: \$18,251.00 (\$247,830.92 total)

| Drilling Summary        |          |                     |       | Drilling Parameters       |                   |
|-------------------------|----------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 9630.00  | Downhole Hours      | 24.00 | Rotating WOB (klbs)       | 35.00 - 35.00     |
| Bit Depth (ft)          | 10223.00 | Drilling Hours      | 6.17  | Sliding WOB (klbs)        | 20.00 - 42.00     |
| Bottom Hole Depth (ft)  | 10223.00 | Hours Circulating   | 1.42  | Rotating SPM              | 186.00 - 186.00   |
| Total Distance (ft)     | 593.00   | Hours Sliding       | 3.00  | Sliding SPM               | 186.00 - 186.00   |
| Distance Rotated (ft)   | 241.00   | Hours Rotating      | 3.17  | Motor RPM                 | 173.00 - 182.00   |
| Distance Slid (ft)      | 352.00   |                     |       | Surface RPM               | 30.00 - 30.00     |
| Inclination In          | 1.50     |                     |       | Flow Rate (gpm)           | 600.00 - 600.00   |
| Inclination Out         | 56.00    |                     |       | On Bottom Pressure (psi)  | 2300.00 - 2600.00 |
| Azimuth In              | 210.85   | % Hours Rotating    | 51%   | Off Bottom Pressure (psi) | 1900.00 - 2000.00 |
| Azimuth Out             | 165.65   | % Hours Sliding     | 49%   |                           |                   |
| AVG Total ROP (ft/h)    | 96.16    | % Distance Sliding  | 59%   |                           |                   |
| AVG Rotating ROP (ft/h) | 76.11    | % Distance Rotating | 41%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 117.33   |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #3 - BHA #3 (8.5" Intermediate)

Date In: Jan 28, 2020, 8:00 Date Out: Jan 30, 2020, 1:30

| Bit Details                |                 | Motor Details                                                                                 |          | Directional Comments                                                                                                                                                            |
|----------------------------|-----------------|-----------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500           | Size (in)                                                                                     | 7.0      | 1.5° FBH 7/8 8.5 Stg Mtr. w/ 8.25" Stab / Flow Rate: 350-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs / BIT: Ulterra RPS616 SN: 49305 Jets: 3x15, 3x16 TFA: 1.106 Runs: 2 |
| Vendor                     | Ulterra         | Lobe/Stage                                                                                    | 7/8, 8.5 |                                                                                                                                                                                 |
| S/N                        | 49305           | Bend Angle                                                                                    | 1.5      |                                                                                                                                                                                 |
| Nozzles                    | 3 x 16 / 3 x 15 | Speed (rev/gal)                                                                               | 0.26     |                                                                                                                                                                                 |
| Total Flow Area (in²)      | 1.106           | Wear Pad OD (in)                                                                              | 7.125    | MWD Comments                                                                                                                                                                    |
| Drilling Hours for Day     | 0.00            | Bit Distances                                                                                 |          |                                                                                                                                                                                 |
| Total Drilled for Day (ft) |                 | Bend (Bit to Bend): 5.25 ft, Survey (Bit to Survey): 67.00 ft, Gamma (Bit to Gamma): 52.00 ft |          | POOH Reason                                                                                                                                                                     |
| Drilling Hours for BHA     | 25.25           |                                                                                               |          |                                                                                                                                                                                 |
| Total Drilled for BHA (ft) | 4265.00         |                                                                                               |          |                                                                                                                                                                                 |
|                            |                 |                                                                                               |          | Total Depth/Casing Point: Reached KOP                                                                                                                                           |

## Directional Items

| Description                                                                                                                                                     | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: RPS616, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50                                                                         | Ulterra       | 49305      | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.25     | 1.25           |
| <b>Mud Motor</b><br>Description: 1.5° FBH 7/8 8.5 Stg Mtr w/ 8.25" Stab, Size (in): 7.00, Bend Angle (°): 1.5, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5 | AIM           | 700-40-024 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.23    | 37.48          |
| <b>Stabilizer</b><br>Description: 8.25" NM Stabilizer                                                                                                           | Gator         | DR43605    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.813   | 6.688   |              | 5.19     | 42.67          |
| <b>UBHO Sub</b><br>Description: UBHO Sub, Type: NM                                                                                                              | AIM           | 675-124    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.875   | 6.750   |              | 2.11     | 44.78          |
| <b>Drill Collar</b><br>Description: NMDC (MWD tool), Style: Slick Drill, Type: NM                                                                               | DTI           | DR33250    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.750   |              | 28.76    | 73.54          |
| <b>Drill Collar</b><br>Description: NMDC (Spacer), Style: Slick Drill, Type: NM                                                                                 | DTI           | DR29426    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.188   | 6.750   |              | 28.73    | 102.27         |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                    | Black Diamond | BD12360    | EverDrg54 Box  | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 105.82         |
| <b>HWDP</b><br>Description: (15 Stands) 5.5" HWDP, Style: Slick                                                                                                 | RIG           |            | EverDrg54 Box  | EverDrg54 Pin  | 4.000   | 5.500   |              | 1413.66  | 1519.48        |

## MWD Items

No Items

**BHA #4 - BHA #4 (Curve Assembly)**

Date In: Jan 30, 2020, 1:30 Date Out: Jan 30, 2020, 14:45

| Bit Details                |         | Motor Details                                                                                                                             |          | Directional Comments                                                                                                                                                                                                                                                                                               |  |
|----------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| OD (in)                    | 8.500   | Size (in)                                                                                                                                 | 6.75     | 2.12° FBH 7/8 5.0 Stg Mtr. w/ Slick Sleeve / Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,480 ft-lbs / BIT: Ulterra CF611 SN: 51718 Jets: 6 x 16 TFA: 1.178 Runs: 2                                                                                                                                      |  |
| Vendor                     | Ulterra | Lobe/Stage                                                                                                                                | 7/8, 5.0 |                                                                                                                                                                                                                                                                                                                    |  |
| S/N                        | 51718   | Bend Angle                                                                                                                                | 2.12     |                                                                                                                                                                                                                                                                                                                    |  |
| Nozzles                    | 6 x 16  | Speed (rev/gal)                                                                                                                           | 0.28     | MWD Comments                                                                                                                                                                                                                                                                                                       |  |
| Total Flow Area (in²)      | 1.178   | Wear Pad OD (in)                                                                                                                          | 7.000    | <b>POOH Reason</b><br><b>Penetration Rate:</b> ROP and Diff dropped off while sliding in the lateral. Picked up off bottom to ensure the pipe was free and not hung up. Pipe was free, went back to bottom and would not drill nor generate any differential pressure. Call was made to POOH and check motor & bit |  |
| Drilling Hours for Day     | 3.08    | Bit Distances                                                                                                                             |          |                                                                                                                                                                                                                                                                                                                    |  |
| Total Drilled for Day (ft) | 286.00  | Bend (Bit to Bend): 4.13 ft, Survey (Bit to Survey): 47.00 ft, Gamma (Bit to Gamma): 41.60 ft, Resistivity (Bit to Resistivity): 33.43 ft |          |                                                                                                                                                                                                                                                                                                                    |  |
| Drilling Hours for BHA     | 3.08    |                                                                                                                                           |          |                                                                                                                                                                                                                                                                                                                    |  |
| Total Drilled for BHA (ft) | 286.00  |                                                                                                                                           |          |                                                                                                                                                                                                                                                                                                                    |  |

**Directional Items**

| Description                                                                                                                                                       | Vendor        | SN#     | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: CF611, Style: PDC, Gauge Length (in): 2.00, Size (in): 8.50                                                                            | Ulterra       | 51718   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 2.12° FBH 7/8 5.0 Stg Mtr w/ Slick Sleeve, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5 | AIM           | 650-019 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 6.750   |              | 26.01    | 27.01          |
| <b>Drill Collar</b><br>Description: Sensor, Style: Flex Drill, Type: NM                                                                                           | APS           | 609     | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 30.76    | 57.77          |
| <b>Drill Collar</b><br>Description: Power Section, Style: Flex Drill, Type: NM                                                                                    | APS           | 65954-3 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 34.17    | 91.94          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                      | Black Diamond | BD12360 | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 95.49          |

**MWD Items**

No Items

**BHA #5 - BHA #5 (Curve Assembly)**

Date In: Jan 30, 2020, 14:45 Date Out: Jan 31, 2020, 16:00

| Bit Details                |         | Motor Details                                                                                                                             |          | Directional Comments                                                                                                                                                          |  |
|----------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| OD (in)                    | 8.500   | Size (in)                                                                                                                                 | 6.75     | 2.12° FBH 7/8 5.0 Stg Mtr. w/ Slick Sleeve / Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,480 ft-lbs / BIT: Ulterra CF611 SN: 51467 Jets: 6 x 16 TFA: 1.178 Runs: 1 |  |
| Vendor                     | Ulterra | Lobe/Stage                                                                                                                                | 7/8, 5.0 |                                                                                                                                                                               |  |
| S/N                        | 51467   | Bend Angle                                                                                                                                | 2.12     |                                                                                                                                                                               |  |
| Nozzles                    | 6 x 16  | Speed (rev/gal)                                                                                                                           | 0.28     | MWD Comments                                                                                                                                                                  |  |
| Total Flow Area (in²)      | 1.178   | Wear Pad OD (in)                                                                                                                          | 7.000    | <div>POOH Reason</div> <div>Change Bottom Hole Assembly: Pooh to P/U Lateral Assembly</div>                                                                                   |  |
| Drilling Hours for Day     | 3.08    | Bit Distances                                                                                                                             |          |                                                                                                                                                                               |  |
| Total Drilled for Day (ft) | 307.00  | Bend (Bit to Bend): 4.13 ft, Survey (Bit to Survey): 47.00 ft, Gamma (Bit to Gamma): 41.60 ft, Resistivity (Bit to Resistivity): 33.43 ft |          |                                                                                                                                                                               |  |
| Drilling Hours for BHA     | 12.42   |                                                                                                                                           |          |                                                                                                                                                                               |  |
| Total Drilled for BHA (ft) | 1166.00 |                                                                                                                                           |          |                                                                                                                                                                               |  |

**Directional Items**

| Description                                                                                                                                                       | Vendor        | SN#     | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: CF611, Style: PDC, Gauge Length (in): 2.00, Size (in): 8.50                                                                            | Ulterra       | 51467   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 2.12° FBH 7/8 5.0 Stg Mtr w/ Slick Sleeve, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5 | AIM           | 650-016 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 6.750   |              | 26.11    | 27.11          |
| <b>Drill Collar</b><br>Description: Sensor, Style: Flex Drill, Type: NM                                                                                           | APS           | 609     | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 30.76    | 57.87          |
| <b>Drill Collar</b><br>Description: Power Section, Style: Flex Drill, Type: NM                                                                                    | APS           | 65954-3 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 34.17    | 92.04          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                      | Black Diamond | BD12360 | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 95.59          |

**MWD Items**

No Items

**Directional Activities**

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details                                                                                                                                                               |
|---------------|------|------------|------------|----------|----------|------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Change BHA    | 6    | 01-29      | 23:15      | 01:30    | 01-30    |            |          | P/U BHA # 4                                                                                                                                                                    |
| TIH           | 8    | 01-30      | 01:30      | 05:45    | 01-30    |            |          | TIH W/ BHA #4                                                                                                                                                                  |
| Other         | 16   | 01-30      | 05:45      | 06:00    | 01-30    |            |          | Relog Gamma F/9585' T/9630'                                                                                                                                                    |
| Slide Drill   | 2    | 01-30      | 06:00      | 06:35    | 01-30    | 9630.00    | 9663.00  | Pressure On (psi): 2300.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 20.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 150, Toolface Type: magnetic |

|              |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Survey       | 46 | 01-30 | 06:35 | 06:45 | 01-30 | 9663.00  | 9663.00  | Inclination (°): 1.500, Azimuth (°): 210.850, TVD (ft): 9613.10, Dogleg (°/100 ft): 0.56, Sensor Depth (ft): 9616.00, Bit To Sensor (ft): 47.00                                               |
| Slide Drill  | 2  | 01-30 | 06:45 | 07:30 | 01-30 | 9663.00  | 9752.00  | Pressure On (psi): 2600.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 160, Toolface Type: magnetic                |
| Survey       | 46 | 01-30 | 07:30 | 07:40 | 01-30 | 9752.00  | 9752.00  | Inclination (°): 11.600, Azimuth (°): 163.050, TVD (ft): 9701.43, Dogleg (°/100 ft): 11.97, Sensor Depth (ft): 9705.00, Bit To Sensor (ft): 47.00                                             |
| Rotary Drill | 1  | 01-30 | 07:40 | 07:45 | 01-30 | 9752.00  | 9767.00  | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Slide Drill  | 2  | 01-30 | 07:45 | 08:20 | 01-30 | 9767.00  | 9842.00  | Pressure On (psi): 2600.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 10, Toolface Type: gravity                  |
| Survey       | 46 | 01-30 | 08:20 | 08:30 | 01-30 | 9842.00  | 9842.00  | Inclination (°): 25.500, Azimuth (°): 166.050, TVD (ft): 9786.55, Dogleg (°/100 ft): 15.48, Sensor Depth (ft): 9795.00, Bit To Sensor (ft): 47.00                                             |
| Rotary Drill | 1  | 01-30 | 08:30 | 08:55 | 01-30 | 9842.00  | 9882.00  | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Slide Drill  | 2  | 01-30 | 08:55 | 09:35 | 01-30 | 9882.00  | 9916.00  | Pressure On (psi): 2600.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 40.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 350, Toolface Type: gravity                 |
| Circulating  | 3  | 01-30 | 09:35 | 11:00 | 01-30 |          |          | Circulate / Pump Slug                                                                                                                                                                         |
| Pooh         | 7  | 01-30 | 11:00 | 14:45 | 01-30 |          |          | POOH to change bit & motor / Decrease in ROP                                                                                                                                                  |
| Change BHA   | 6  | 01-30 | 14:45 | 15:45 | 01-30 |          |          | P/U BHA # 5 / C/O Motor & Bit                                                                                                                                                                 |
| TIH          | 8  | 01-30 | 15:45 | 20:30 | 01-30 |          |          | TIH W/ BHA #5                                                                                                                                                                                 |
| Slide Drill  | 2  | 01-30 | 20:30 | 20:40 | 01-30 | 9916.00  | 9954.00  | Pressure On (psi): 2600.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 42.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 350, Toolface Type: gravity                 |
| Survey       | 46 | 01-30 | 20:40 | 20:55 | 01-30 | 9954.00  | 9954.00  | Inclination (°): 35.400, Azimuth (°): 167.750, TVD (ft): 9882.98, Dogleg (°/100 ft): 8.87, Sensor Depth (ft): 9907.00, Bit To Sensor (ft): 47.00                                              |
| Rotary Drill | 1  | 01-30 | 20:55 | 21:55 | 01-30 | 9954.00  | 10044.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Survey       | 46 | 01-30 | 21:55 | 22:00 | 01-30 | 10044.00 | 10044.00 | Inclination (°): 43.200, Azimuth (°): 174.750, TVD (ft): 9952.61, Dogleg (°/100 ft): 9.96, Sensor Depth (ft): 9997.00, Bit To Sensor (ft): 47.00                                              |
| Rotary Drill | 1  | 01-30 | 22:00 | 22:10 | 01-30 | 10044.00 | 10051.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Slide Drill  | 2  | 01-30 | 22:10 | 22:25 | 01-30 | 10051.00 | 10134.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 42.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 330, Toolface Type: gravity                 |
| Survey       | 46 | 01-30 | 22:25 | 22:30 | 01-30 | 10134.00 | 10134.00 | Inclination (°): 56.000, Azimuth (°): 165.650, TVD (ft): 10010.89, Dogleg (°/100 ft): 16.15, Sensor Depth (ft): 10087.00, Bit To Sensor (ft): 47.00                                           |
| Rotary Drill | 1  | 01-30 | 22:30 | 00:00 | 01-31 | 10134.00 | 10223.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

Friday, Jan 31 00:00 - 23:59 (Day 9 of 20)

Billing: \$24,698.00 (\$247,830.92 total)

| Drilling Summary        |          |                     |       | Drilling Parameters       |                   |
|-------------------------|----------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 10223.00 | Downhole Hours      | 24.00 | Rotating WOB (klbs)       | 35.00 - 35.00     |
| Bit Depth (ft)          | 11082.00 | Drilling Hours      | 9.33  | Sliding WOB (klbs)        | 42.00 - 42.00     |
| Bottom Hole Depth (ft)  | 11082.00 | Hours Circulating   | 1.50  | Rotating SPM              | 186.00 - 186.00   |
| Total Distance (ft)     | 859.00   | Hours Sliding       | 3.50  | Sliding SPM               | 186.00 - 186.00   |
| Distance Rotated (ft)   | 624.00   | Hours Rotating      | 5.83  | Motor RPM                 | 173.00 - 173.00   |
| Distance Slid (ft)      | 235.00   |                     |       | Surface RPM               | 30.00 - 40.00     |
| Inclination In          | 63.63    |                     |       | Flow Rate (gpm)           | 600.00 - 600.00   |
| Inclination Out         | 90.29    |                     |       | On Bottom Pressure (psi)  | 2600.00 - 2600.00 |
| Azimuth In              | 162.51   | % Hours Rotating    | 62%   | Off Bottom Pressure (psi) | 1900.00 - 2000.00 |
| Azimuth Out             | 179.03   | % Hours Sliding     | 38%   |                           |                   |
| AVG Total ROP (ft/h)    | 87.51    | % Distance Sliding  | 27%   |                           |                   |
| AVG Rotating ROP (ft/h) | 97.23    | % Distance Rotating | 73%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 67.14    |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #5 - BHA #5 (Curve Assembly)

Date In: Jan 30, 2020, 14:45 Date Out: Jan 31, 2020, 16:00

| Bit Details                |         | Motor Details                                                                                                                             |          | Directional Comments                                                                                                                                                          |
|----------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500   | Size (in)                                                                                                                                 | 6.75     | 2.12° FBH 7/8 5.0 Stg Mtr. w/ Slick Sleeve / Flow Rate: 300-600, Max Diff: 1130 psi, Max Torque: 10,480 ft-lbs / BIT: Ulterra CF611 SN: 51467 Jets: 6 x 16 TFA: 1.178 Runs: 1 |
| Vendor                     | Ulterra | Lobe/Stage                                                                                                                                | 7/8, 5.0 |                                                                                                                                                                               |
| S/N                        | 51467   | Bend Angle                                                                                                                                | 2.12     |                                                                                                                                                                               |
| Nozzles                    | 6 x 16  | Speed (rev/gal)                                                                                                                           | 0.28     |                                                                                                                                                                               |
| Total Flow Area (in²)      | 1.178   | Wear Pad OD (in)                                                                                                                          | 7.000    | MWD Comments                                                                                                                                                                  |
| Drilling Hours for Day     | 9.33    | Bit Distances                                                                                                                             |          |                                                                                                                                                                               |
| Total Drilled for Day (ft) | 859.00  | Bend (Bit to Bend): 4.13 ft, Survey (Bit to Survey): 47.00 ft, Gamma (Bit to Gamma): 41.60 ft, Resistivity (Bit to Resistivity): 33.43 ft |          |                                                                                                                                                                               |
| Drilling Hours for BHA     | 12.42   |                                                                                                                                           |          |                                                                                                                                                                               |
| Total Drilled for BHA (ft) | 1166.00 |                                                                                                                                           |          |                                                                                                                                                                               |
|                            |         |                                                                                                                                           |          | POOH Reason                                                                                                                                                                   |
|                            |         |                                                                                                                                           |          | Change Bottom Hole Assembly: Pooh to P/U Lateral Assembly                                                                                                                     |

## Directional Items

| Description                                                                                                                                                       | Vendor        | SN#     | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: CF611, Style: PDC, Gauge Length (in): 2.00, Size (in): 8.50                                                                            | Ulterra       | 51467   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 2.12° FBH 7/8 5.0 Stg Mtr w/ Slick Sleeve, Size (in): 6.75, Bend Angle (°): 2.12, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 5 | AIM           | 650-016 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 6.750   |              | 26.11    | 27.11          |
| <b>Drill Collar</b><br>Description: Sensor, Style: Flex Drill, Type: NM                                                                                           | APS           | 609     | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 30.76    | 57.87          |
| <b>Drill Collar</b><br>Description: Power Section, Style: Flex Drill, Type: NM                                                                                    | APS           | 65954-3 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 34.17    | 92.04          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                      | Black Diamond | BD12360 | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 95.59          |

## MWD Items

No Items

## BHA #6 - BHA #6 (Lateral Assembly)

Date In: Jan 31, 2020, 16:00 Date Out: Feb 4, 2020, 17:30

| Bit Details                |         | Motor Details                                        |          | Directional Comments                                                                                                                                                                  |
|----------------------------|---------|------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500   | Size (in)                                            | 7.0      | 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 350-750,<br>Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs / BIT:<br>Baker Type: DD506TWX SN: 5305211 Jets: 6 x 22 TFA:<br>2.227 Runs: 1 |
| Vendor                     | Baker   | Lobe/Stage                                           | 7/8, 8.5 |                                                                                                                                                                                       |
| S/N                        | 5305211 | Bend Angle                                           | 1.75     |                                                                                                                                                                                       |
| Nozzles                    | 6 x 22  | Speed (rev/gal)                                      | 0.26     |                                                                                                                                                                                       |
| Total Flow Area (in²)      | 2.227   | Wear Pad OD (in)                                     | 7.250    | MWD Comments                                                                                                                                                                          |
| Drilling Hours for Day     | 0.00    | Bit Distances                                        |          |                                                                                                                                                                                       |
| Total Drilled for Day (ft) |         | Bend (Bit to Bend): 5.28 ft, Survey (Bit to Survey): |          |                                                                                                                                                                                       |
| Drilling Hours for BHA     | 72.92   | 57.00 ft, Gamma (Bit to Gamma): 51.00 ft,            |          |                                                                                                                                                                                       |
| Total Drilled for BHA (ft) | 3622.00 | Resistivity (Bit to Resistivity): 44.00 ft           |          |                                                                                                                                                                                       |
|                            |         |                                                      |          | POOH Reason                                                                                                                                                                           |
|                            |         |                                                      |          | Penetration Rate: Pooh due to ROP and to Replace Res Tool                                                                                                                             |

## Directional Items

| Description                                                                                                                                                      | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: <i>DD506TWX, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50</i>                                                                 | Baker         | 5305211    | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: <i>1.75° FBH 7/8 8.5 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5</i> | AIM           | 700-40-014 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.23    | 37.23          |
| <b>Drill Collar</b><br>Description: <i>Sensor , Style: Flex Drill, Type: NM</i>                                                                                  | APS           | 609        | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 30.76    | 67.99          |
| <b>Drill Collar</b><br>Description: <i>Power Section, Style: Flex Drill, Type: NM</i>                                                                            | APS           | 65638-2    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 33.56    | 101.55         |
| <b>Crossover Sub</b><br>Description: <i>X-Over Sub, Type: Steel</i>                                                                                              | Black Diamond | BD12360    | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 105.10         |
| <b>Drill Pipe</b><br>Description: <i>(30 Stands) 5.5" Drill Pipe, Style: Slick</i>                                                                               | RIG           |            | EverDrlg54 Box | EverDrlg54 Pin | 4.000   | 5.500   |              | 2688.68  | 2793.78        |
| <b>Crossover Sub</b><br>Description: <i>X-Over (4 1/2 IF Box x ED54 Pin), Type: Steel</i>                                                                        | BD            | BD15190    | 4 1/2" IF Box  | EverDrlg54 Pin | 3.500   | 6.750   |              | 3.61     | 2797.39        |
| <b>Agitator</b><br>Description: <i>Agitator, Size (in): 7.00</i>                                                                                                 | NOV           | 675-0078   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.07    | 2822.46        |
| <b>Crossover Sub</b><br>Description: <i>X-Over (ED54 Box x 4 1/2 IF Pin), Type: Steel</i>                                                                        | BD            | BD15114    | EverDrlg54 Box | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2826.08        |

**MWD Items**

No Items

**Directional Activities**

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details                                                                                                                                                                              |
|---------------|------|------------|------------|----------|----------|------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill  | 1    | 01-30      | 22:30      | 00:00    | 01-31    | 10134.00   | 10223.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Survey        | 46   | 01-31      | 00:00      | 00:05    | 01-31    | 10223.00   | 10223.00 | Inclination (°): 63.630, Azimuth (°): 162.510, TVD (ft): 10055.61, Dogleg (°/100 ft): 9.10, Sensor Depth (ft): 10176.00, Bit To Sensor (ft): 47.00                                            |
| Slide Drill   | 2    | 01-31      | 00:05      | 01:05    | 01-31    | 10223.00   | 10313.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 42.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 30, Toolface Type: gravity                  |
| Survey        | 46   | 01-31      | 01:05      | 01:10    | 01-31    | 10313.00   | 10313.00 | Inclination (°): 69.890, Azimuth (°): 164.290, TVD (ft): 10091.11, Dogleg (°/100 ft): 7.19, Sensor Depth (ft): 10266.00, Bit To Sensor (ft): 47.00                                            |
| Slide Drill   | 2    | 01-31      | 01:10      | 02:25    | 01-31    | 10313.00   | 10403.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 42.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 30, Toolface Type: gravity                  |
| Survey        | 46   | 01-31      | 02:25      | 02:30    | 01-31    | 10403.00   | 10403.00 | Inclination (°): 84.430, Azimuth (°): 167.690, TVD (ft): 10111.06, Dogleg (°/100 ft): 16.57, Sensor Depth (ft): 10356.00, Bit To Sensor (ft): 47.00                                           |
| Slide Drill   | 2    | 01-31      | 02:30      | 03:20    | 01-31    | 10403.00   | 10443.00 | Curve Landed<br>Pressure On (psi): 2600.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 42.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 90, Toolface Type: gravity  |
| Rotary Drill  | 1    | 01-31      | 03:20      | 03:40    | 01-31    | 10443.00   | 10492.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Survey        | 46   | 01-31      | 03:40      | 03:45    | 01-31    | 10492.00   | 10492.00 | Inclination (°): 91.700, Azimuth (°): 178.500, TVD (ft): 10114.07, Dogleg (°/100 ft): 14.62, Sensor Depth (ft): 10445.00, Bit To Sensor (ft): 47.00                                           |
| Rotary Drill  | 1    | 01-31      | 03:45      | 05:15    | 01-31    | 10492.00   | 10672.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Survey        | 46   | 01-31      | 05:15      | 05:20    | 01-31    | 10672.00   | 10672.00 | Inclination (°): 92.840, Azimuth (°): 178.900, TVD (ft): 10106.94, Dogleg (°/100 ft): 0.67, Sensor Depth (ft): 10625.00, Bit To Sensor (ft): 47.00                                            |
| Rotary Drill  | 1    | 01-31      | 05:20      | 06:15    | 01-31    | 10672.00   | 10761.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Survey        | 46   | 01-31      | 06:15      | 06:20    | 01-31    | 10761.00   | 10761.00 | Inclination (°): 93.440, Azimuth (°): 179.260, TVD (ft): 10102.07, Dogleg (°/100 ft): 0.79, Sensor Depth (ft): 10714.00, Bit To Sensor (ft): 47.00                                            |
| Rotary Drill  | 1    | 01-31      | 06:20      | 06:25    | 01-31    | 10761.00   | 10774.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Slide Drill   | 2    | 01-31      | 06:25      | 06:35    | 01-31    | 10774.00   | 10777.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 42.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 180, Toolface Type: gravity                 |
| Circulating   | 3    | 01-31      | 06:35      | 07:00    | 01-31    |            |          | P/U off bottom due to H2S alarms                                                                                                                                                              |
| Slide Drill   | 2    | 01-31      | 07:00      | 07:15    | 01-31    | 10777.00   | 10789.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 42.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 180, Toolface Type: gravity                 |

|                       |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|-----------------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill          | 1  | 01-31 | 07:15 | 08:00 | 01-31 | 10789.00 | 10851.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Survey                | 46 | 01-31 | 08:00 | 08:10 | 01-31 | 10851.00 | 10851.00 | Inclination (°): 90.600, Azimuth (°): 178.650, TVD (ft): 10098.89, Dogleg (°/100 ft): 3.23, Sensor Depth (ft): 10804.00, Bit To Sensor (ft): 47.00                                            |
| Rotary Drill          | 1  | 01-31 | 08:10 | 09:00 | 01-31 | 10851.00 | 10941.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 30, Surface Torque (ft lbf): 12000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Survey                | 46 | 01-31 | 09:00 | 09:10 | 01-31 | 10941.00 | 10941.00 | Inclination (°): 90.450, Azimuth (°): 178.730, TVD (ft): 10098.07, Dogleg (°/100 ft): 0.19, Sensor Depth (ft): 10894.00, Bit To Sensor (ft): 47.00                                            |
| Rotary Drill          | 1  | 01-31 | 09:10 | 10:05 | 01-31 | 10941.00 | 11031.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 40, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Survey                | 46 | 01-31 | 10:05 | 10:15 | 01-31 | 11031.00 | 11031.00 | Inclination (°): 90.290, Azimuth (°): 179.030, TVD (ft): 10097.49, Dogleg (°/100 ft): 0.38, Sensor Depth (ft): 10984.00, Bit To Sensor (ft): 47.00                                            |
| Rotary Drill          | 1  | 01-31 | 10:15 | 10:45 | 01-31 | 11031.00 | 11082.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 2000.00, Weight On Bit (klbs): 35.00, Surface RPM: 40, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186.00 |
| Circulating           | 3  | 01-31 | 10:45 | 11:45 | 01-31 |          |          | Circulate / Pump Slug                                                                                                                                                                         |
| Pooh                  | 7  | 01-31 | 11:45 | 16:00 | 01-31 |          |          | POOH for Lateral Assembly                                                                                                                                                                     |
| Change BHA            | 6  | 01-31 | 16:00 | 18:00 | 01-31 |          |          | P/U BHA #6 / Program tool / C/O Motor, Bit and Power section of MWD Tool                                                                                                                      |
| Circulating           | 3  | 01-31 | 18:00 | 18:05 | 01-31 |          |          | Test MWD Tool & Motor (Test Good)                                                                                                                                                             |
| TIH                   | 8  | 01-31 | 18:05 | 19:00 | 01-31 |          |          | TIH W/ BHA #6                                                                                                                                                                                 |
| Other                 | 16 | 01-31 | 19:00 | 19:45 | 01-31 |          |          | P/U Agitator and Test                                                                                                                                                                         |
| Other                 | 16 | 01-31 | 19:45 | 21:30 | 01-31 |          |          | Slip & Cut Drill Line                                                                                                                                                                         |
| TIH                   | 8  | 01-31 | 21:30 | 00:00 | 02-01 |          |          | TIH W/ BHA #6                                                                                                                                                                                 |
| <b>MWD Activities</b> |    |       |       |       |       |          |          |                                                                                                                                                                                               |
| No Activities         |    |       |       |       |       |          |          |                                                                                                                                                                                               |



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

Saturday, Feb 01 00:00 - 23:59 (Day 10 of 20)

Billing: \$10,653.00 (\$247,830.92 total)

| Drilling Summary        |          |                     |       | Drilling Parameters       |                   |
|-------------------------|----------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 11082.00 | Downhole Hours      | 24.00 | Rotating WOB (klbs)       | 35.00 - 45.00     |
| Bit Depth (ft)          | 12246.00 | Drilling Hours      | 21.25 | Sliding WOB (klbs)        | 42.00 - 50.00     |
| Bottom Hole Depth (ft)  | 12246.00 | Hours Circulating   | 0.58  | Rotating SPM              | 170.00 - 202.00   |
| Total Distance (ft)     | 1164.00  | Hours Sliding       | 1.17  | Sliding SPM               | 186.00 - 220.00   |
| Distance Rotated (ft)   | 1129.00  | Hours Rotating      | 20.08 | Motor RPM                 | 173.00 - 173.00   |
| Distance Slid (ft)      | 35.00    |                     |       | Surface RPM               | 50.00 - 50.00     |
| Inclination In          | 90.50    |                     |       | Flow Rate (gpm)           | 550.00 - 710.00   |
| Inclination Out         | 88.74    |                     |       | On Bottom Pressure (psi)  | 2600.00 - 4000.00 |
| Azimuth In              | 178.95   | % Hours Rotating    | 95%   | Off Bottom Pressure (psi) | 1900.00 - 3700.00 |
| Azimuth Out             | 178.15   | % Hours Sliding     | 5%    |                           |                   |
| AVG Total ROP (ft/h)    | 54.78    | % Distance Sliding  | 3%    |                           |                   |
| AVG Rotating ROP (ft/h) | 56.22    | % Distance Rotating | 97%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 30.00    |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #6 - BHA #6 (Lateral Assembly)

Date In: Jan 31, 2020, 16:00 Date Out: Feb 4, 2020, 17:30

| Bit Details                |         | Motor Details                                                                                                                             |          | Directional Comments                                                                                                                                                         |
|----------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500   | Size (in)                                                                                                                                 | 7.0      | 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 350-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs / BIT: Baker Type: DD506TWX SN: 5305211 Jets: 6 x 22 TFA: 2.227 Runs: 1 |
| Vendor                     | Baker   | Lobe/Stage                                                                                                                                | 7/8, 8.5 |                                                                                                                                                                              |
| S/N                        | 5305211 | Bend Angle                                                                                                                                | 1.75     |                                                                                                                                                                              |
| Nozzles                    | 6 x 22  | Speed (rev/gal)                                                                                                                           | 0.26     |                                                                                                                                                                              |
| Total Flow Area (in²)      | 2.227   | Wear Pad OD (in)                                                                                                                          | 7.250    | MWD Comments                                                                                                                                                                 |
| Drilling Hours for Day     | 21.25   | Bit Distances                                                                                                                             |          |                                                                                                                                                                              |
| Total Drilled for Day (ft) | 1164.00 | Bend (Bit to Bend): 5.28 ft, Survey (Bit to Survey): 57.00 ft, Gamma (Bit to Gamma): 51.00 ft, Resistivity (Bit to Resistivity): 44.00 ft |          |                                                                                                                                                                              |
| Drilling Hours for BHA     | 72.92   |                                                                                                                                           |          | POOH Reason                                                                                                                                                                  |
| Total Drilled for BHA (ft) | 3622.00 |                                                                                                                                           |          |                                                                                                                                                                              |
|                            |         |                                                                                                                                           |          | Penetration Rate: Pooh due to ROP and to Replace Res Tool                                                                                                                    |

## Directional Items

| Description                                                                                                                                                        | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: DD506TWX, Style: PDC,<br>Gauge Length (in): 4.00, Size (in): 8.50                                                                       | Baker         | 5305211    | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr<br>Slick, Size (in): 7.00, Bend Angle (°):<br>1.75, Rotor Lobe: 7, Stator Lobe: 8,<br>Stator Stage: 8.5 | AIM           | 700-40-014 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.23    | 37.23          |
| <b>Drill Collar</b><br>Description: Sensor, Style: Flex Drill,<br>Type: NM                                                                                         | APS           | 609        | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 30.76    | 67.99          |
| <b>Drill Collar</b><br>Description: Power Section, Style: Flex<br>Drill, Type: NM                                                                                  | APS           | 65638-2    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 33.56    | 101.55         |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                       | Black Diamond | BD12360    | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 105.10         |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe,<br>Style: Slick                                                                                     | RIG           |            | EverDrlg54 Box | EverDrlg54 Pin | 4.000   | 5.500   |              | 2688.68  | 2793.78        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x<br>ED54 Pin), Type: Steel                                                                              | BD            | BD15190    | 4 1/2" IF Box  | EverDrlg54 Pin | 3.500   | 6.750   |              | 3.61     | 2797.39        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                          | NOV           | 675-0078   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.07    | 2822.46        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2<br>IF Pin), Type: Steel                                                                              | BD            | BD15114    | EverDrlg54 Box | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2826.08        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details |
|---------------|------|------------|------------|----------|----------|------------|----------|------------------|
| TIH           | 8    | 01-31      | 21:30      | 00:00    | 02-01    |            |          | TIH W/ BHA #6    |

|              |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill | 1  | 02-01 | 00:00 | 01:55 | 02-01 | 11082.00 | 11162.00 | Pressure On (psi): 3100.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00 |
| Survey       | 46 | 02-01 | 01:55 | 02:00 | 02-01 | 11162.00 | 11162.00 | Inclination (°): 90.500, Azimuth (°): 178.950, TVD (ft): 10096.65, Dogleg (°/100 ft): 0.19, Sensor Depth (ft): 11105.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-01 | 02:00 | 04:20 | 02-01 | 11162.00 | 11342.00 | Pressure On (psi): 3100.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00 |
| Survey       | 46 | 02-01 | 04:20 | 04:35 | 02-01 | 11342.00 | 11342.00 | Inclination (°): 91.830, Azimuth (°): 178.770, TVD (ft): 10093.00, Dogleg (°/100 ft): 0.75, Sensor Depth (ft): 11285.00, Bit To Sensor (ft): 57.00                                            |
|              |    |       |       |       |       |          |          | Recycled                                                                                                                                                                                      |
| Rotary Drill | 1  | 02-01 | 04:35 | 05:25 | 02-01 | 11342.00 | 11431.00 | Pressure On (psi): 3100.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00 |
| Survey       | 46 | 02-01 | 05:25 | 05:35 | 02-01 | 11431.00 | 11431.00 | Inclination (°): 92.230, Azimuth (°): 178.520, TVD (ft): 10089.84, Dogleg (°/100 ft): 0.53, Sensor Depth (ft): 11374.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-01 | 05:35 | 05:40 | 02-01 | 11431.00 | 11435.00 | Pressure On (psi): 3100.00, Pressure Off (psi): 2500.00, Weight On Bit (klbs): 35.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 550.00, Strokes Per Minute: 170.00 |
| Slide Drill  | 2  | 02-01 | 05:40 | 06:05 | 02-01 | 11435.00 | 11455.00 | Pressure On (psi): 2600.00, Pressure Off (psi): 1900.00, Weight On Bit (klbs): 42.00, Flow Rate (gpm): 600.00, Strokes Per Minute: 186, Toolface: 135, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-01 | 06:05 | 06:40 | 02-01 | 11455.00 | 11520.00 | Pressure On (psi): 3700.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00 |
| Survey       | 46 | 02-01 | 06:40 | 06:50 | 02-01 | 11520.00 | 11520.00 | Inclination (°): 91.760, Azimuth (°): 180.110, TVD (ft): 10086.74, Dogleg (°/100 ft): 1.86, Sensor Depth (ft): 11463.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-01 | 06:50 | 07:50 | 02-01 | 11520.00 | 11610.00 | Pressure On (psi): 3700.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00 |
| Survey       | 46 | 02-01 | 07:50 | 08:00 | 02-01 | 11610.00 | 11610.00 | Inclination (°): 92.430, Azimuth (°): 180.200, TVD (ft): 10083.45, Dogleg (°/100 ft): 0.75, Sensor Depth (ft): 11553.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-01 | 08:00 | 08:55 | 02-01 | 11610.00 | 11699.00 | Pressure On (psi): 3700.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00 |
| Survey       | 46 | 02-01 | 08:55 | 09:05 | 02-01 | 11699.00 | 11699.00 | Inclination (°): 92.500, Azimuth (°): 179.950, TVD (ft): 10079.63, Dogleg (°/100 ft): 0.29, Sensor Depth (ft): 11642.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-01 | 09:05 | 10:10 | 02-01 | 11699.00 | 11789.00 | Pressure On (psi): 3700.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00 |
| Survey       | 46 | 02-01 | 10:10 | 10:20 | 02-01 | 11789.00 | 11789.00 | Inclination (°): 92.200, Azimuth (°): 179.310, TVD (ft): 10075.94, Dogleg (°/100 ft): 0.78, Sensor Depth (ft): 11732.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-01 | 10:20 | 11:00 | 02-01 | 11789.00 | 11822.00 | Pressure On (psi): 3700.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00 |
| Circulating  | 3  | 02-01 | 11:00 | 11:35 | 02-01 |          |          | Circulate on 3 pump while working on Pump 1 and Pump 2                                                                                                                                        |
| Rotary Drill | 1  | 02-01 | 11:35 | 13:00 | 02-01 | 11822.00 | 11878.00 | Pressure On (psi): 3700.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00 |
| Survey       | 46 | 02-01 | 13:00 | 13:10 | 02-01 | 11878.00 | 11878.00 | Inclination (°): 91.800, Azimuth (°): 179.340, TVD (ft): 10072.83, Dogleg (°/100 ft): 0.45, Sensor Depth (ft): 11821.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-01 | 13:10 | 13:25 | 02-01 | 11878.00 | 11888.00 | Pressure On (psi): 3700.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00 |
| Slide Drill  | 2  | 02-01 | 13:25 | 14:10 | 02-01 | 11888.00 | 11903.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 160, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-01 | 14:10 | 15:40 | 02-01 | 11903.00 | 11968.00 | Pressure On (psi): 3700.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00 |
| Survey       | 46 | 02-01 | 15:40 | 15:50 | 02-01 | 11968.00 | 11968.00 | Inclination (°): 89.010, Azimuth (°): 178.830, TVD (ft): 10072.19, Dogleg (°/100 ft): 3.15, Sensor Depth (ft): 11911.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-01 | 15:50 | 18:00 | 02-01 | 11968.00 | 12057.00 | Pressure On (psi): 3700.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00 |
| Survey       | 46 | 02-01 | 18:00 | 18:15 | 02-01 | 12057.00 | 12057.00 | Inclination (°): 88.670, Azimuth (°): 178.400, TVD (ft): 10074.00, Dogleg (°/100 ft): 0.62, Sensor Depth (ft): 12000.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-01 | 18:15 | 20:50 | 02-01 | 12057.00 | 12147.00 | Pressure On (psi): 3700.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00 |
| Survey       | 46 | 02-01 | 20:50 | 21:00 | 02-01 | 12147.00 | 12147.00 | Inclination (°): 88.940, Azimuth (°): 178.320, TVD (ft): 10075.87, Dogleg (°/100 ft): 0.31, Sensor Depth (ft): 12090.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-01 | 21:00 | 23:30 | 02-01 | 12147.00 | 12237.00 | Pressure On (psi): 3700.00, Pressure Off (psi): 3200.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 22000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 202.00 |

|              |    |       |       |       |       |          |          |                                                                                                                                                    |
|--------------|----|-------|-------|-------|-------|----------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Survey       | 46 | 02-01 | 23:30 | 23:45 | 02-01 | 12237.00 | 12237.00 | Inclination (°): 88.740, Azimuth (°): 178.150, TVD (ft): 10077.69, Dogleg (°/100 ft): 0.29, Sensor Depth (ft): 12180.00, Bit To Sensor (ft): 57.00 |
| Rotary Drill | 1  | 02-01 | 23:45 | 00:00 | 02-02 | 12237.00 | 12246.00 |                                                                                                                                                    |

MWD Activities

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

Sunday, Feb 02 00:00 - 23:59 (Day 11 of 20)

Billing: \$10,653.00 (\$247,830.92 total)

| Drilling Summary        |          |                     |       | Drilling Parameters       |                   |
|-------------------------|----------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 12246.00 | Downhole Hours      | 24.00 | Rotating WOB (klbs)       | 45.00 - 45.00     |
| Bit Depth (ft)          | 13238.00 | Drilling Hours      | 21.17 | Sliding WOB (klbs)        | 50.00 - 50.00     |
| Bottom Hole Depth (ft)  | 13238.00 | Hours Circulating   | 0.00  | Rotating SPM              | 204.00 - 219.00   |
| Total Distance (ft)     | 992.00   | Hours Sliding       | 5.92  | Sliding SPM               | 220.00 - 220.00   |
| Distance Rotated (ft)   | 795.00   | Hours Rotating      | 15.25 | Motor RPM                 | 173.00 - 173.00   |
| Distance Slid (ft)      | 197.00   |                     |       | Surface RPM               | 40.00 - 50.00     |
| Inclination In          | 87.33    |                     |       | Flow Rate (gpm)           | 650.00 - 710.00   |
| Inclination Out         | 91.20    |                     |       | On Bottom Pressure (psi)  | 3500.00 - 4000.00 |
| Azimuth In              | 177.35   | % Hours Rotating    | 72%   | Off Bottom Pressure (psi) | 3000.00 - 3700.00 |
| Azimuth Out             | 181.25   | % Hours Sliding     | 28%   |                           |                   |
| AVG Total ROP (ft/h)    | 46.74    | % Distance Sliding  | 20%   |                           |                   |
| AVG Rotating ROP (ft/h) | 51.87    | % Distance Rotating | 80%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 33.30    |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #6 - BHA #6 (Lateral Assembly)

Date In: Jan 31, 2020, 16:00 Date Out: Feb 4, 2020, 17:30

| Bit Details                |         | Motor Details                                        |          | Directional Comments                                                                                                                                                                  |
|----------------------------|---------|------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500   | Size (in)                                            | 7.0      | 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 350-750,<br>Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs / BIT:<br>Baker Type: DD506TWX SN: 5305211 Jets: 6 x 22 TFA:<br>2.227 Runs: 1 |
| Vendor                     | Baker   | Lobe/Stage                                           | 7/8, 8.5 |                                                                                                                                                                                       |
| S/N                        | 5305211 | Bend Angle                                           | 1.75     |                                                                                                                                                                                       |
| Nozzles                    | 6 x 22  | Speed (rev/gal)                                      | 0.26     |                                                                                                                                                                                       |
| Total Flow Area (in²)      | 2.227   | Wear Pad OD (in)                                     | 7.250    | MWD Comments                                                                                                                                                                          |
| Drilling Hours for Day     | 21.17   | Bit Distances                                        |          |                                                                                                                                                                                       |
| Total Drilled for Day (ft) | 992.00  | Bend (Bit to Bend): 5.28 ft, Survey (Bit to Survey): |          |                                                                                                                                                                                       |
| Drilling Hours for BHA     | 72.92   | 57.00 ft, Gamma (Bit to Gamma): 51.00 ft,            |          | POOH Reason                                                                                                                                                                           |
| Total Drilled for BHA (ft) | 3622.00 | Resistivity (Bit to Resistivty): 44.00 ft            |          |                                                                                                                                                                                       |
|                            |         |                                                      |          | Penetration Rate: Pooh due to ROP and to Replace Res Tool                                                                                                                             |

## Directional Items

| Description                                                                                                                                                        | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: DD506TWX, Style: PDC,<br>Gauge Length (in): 4.00, Size (in): 8.50                                                                       | Baker         | 5305211    | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr<br>Slick, Size (in): 7.00, Bend Angle (°):<br>1.75, Rotor Lobe: 7, Stator Lobe: 8,<br>Stator Stage: 8.5 | AIM           | 700-40-014 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.23    | 37.23          |
| <b>Drill Collar</b><br>Description: Sensor, Style: Flex Drill,<br>Type: NM                                                                                         | APS           | 609        | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 30.76    | 67.99          |
| <b>Drill Collar</b><br>Description: Power Section, Style: Flex<br>Drill, Type: NM                                                                                  | APS           | 65638-2    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 33.56    | 101.55         |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                       | Black Diamond | BD12360    | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 105.10         |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe,<br>Style: Slick                                                                                     | RIG           |            | EverDrlg54 Box | EverDrlg54 Pin | 4.000   | 5.500   |              | 2688.68  | 2793.78        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x<br>ED54 Pin), Type: Steel                                                                              | BD            | BD15190    | 4 1/2" IF Box  | EverDrlg54 Pin | 3.500   | 6.750   |              | 3.61     | 2797.39        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                          | NOV           | 675-0078   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.07    | 2822.46        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2<br>IF Pin), Type: Steel                                                                              | BD            | BD15114    | EverDrlg54 Box | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2826.08        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details |
|---------------|------|------------|------------|----------|----------|------------|----------|------------------|
| Rotary Drill  | 1    | 02-01      | 23:45      | 00:00    | 02-02    | 12237.00   | 12246.00 |                  |

|                       |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|-----------------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill          | 1  | 02-02 | 00:00 | 01:25 | 02-02 | 12246.00 | 12326.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey                | 46 | 02-02 | 01:25 | 01:45 | 02-02 | 12326.00 | 12326.00 | Inclination (°): 87.330, Azimuth (°): 177.350, TVD (ft): 10080.75, Dogleg (°/100 ft): 1.82, Sensor Depth (ft): 12269.00, Bit To Sensor (ft): 57.00<br>Recycled                                |
| Slide Drill           | 2  | 02-02 | 01:45 | 02:25 | 02-02 | 12326.00 | 12356.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 60, Toolface Type: gravity                  |
| Rotary Drill          | 1  | 02-02 | 02:25 | 03:55 | 02-02 | 12356.00 | 12416.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey                | 46 | 02-02 | 03:55 | 04:30 | 02-02 | 12416.00 | 12416.00 | Inclination (°): 86.390, Azimuth (°): 177.590, TVD (ft): 10085.68, Dogleg (°/100 ft): 1.08, Sensor Depth (ft): 12359.00, Bit To Sensor (ft): 57.00<br>Recycled 2x                             |
| Slide Drill           | 2  | 02-02 | 04:30 | 05:20 | 02-02 | 12416.00 | 12446.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 45, Toolface Type: gravity                  |
| Rotary Drill          | 1  | 02-02 | 05:20 | 06:20 | 02-02 | 12446.00 | 12506.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey                | 46 | 02-02 | 06:20 | 06:30 | 02-02 | 12506.00 | 12506.00 | Inclination (°): 87.960, Azimuth (°): 178.350, TVD (ft): 10090.11, Dogleg (°/100 ft): 1.94, Sensor Depth (ft): 12449.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill          | 1  | 02-02 | 06:30 | 06:45 | 02-02 | 12506.00 | 12516.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Slide Drill           | 2  | 02-02 | 06:45 | 07:35 | 02-02 | 12516.00 | 12536.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 60, Toolface Type: gravity                  |
| Rotary Drill          | 1  | 02-02 | 07:35 | 09:05 | 02-02 | 12536.00 | 12595.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey                | 46 | 02-02 | 09:05 | 09:20 | 02-02 | 12595.00 | 12595.00 | Inclination (°): 89.150, Azimuth (°): 179.130, TVD (ft): 10092.36, Dogleg (°/100 ft): 1.60, Sensor Depth (ft): 12538.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill          | 1  | 02-02 | 09:20 | 09:45 | 02-02 | 12595.00 | 12607.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Slide Drill           | 2  | 02-02 | 09:45 | 10:30 | 02-02 | 12607.00 | 12627.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 80, Toolface Type: gravity                  |
| Rotary Drill          | 1  | 02-02 | 10:30 | 11:40 | 02-02 | 12627.00 | 12685.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey                | 46 | 02-02 | 11:40 | 11:50 | 02-02 | 12685.00 | 12685.00 | Inclination (°): 89.580, Azimuth (°): 179.930, TVD (ft): 10093.35, Dogleg (°/100 ft): 1.01, Sensor Depth (ft): 12628.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill          | 1  | 02-02 | 11:50 | 13:10 | 02-02 | 12685.00 | 12774.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey                | 46 | 02-02 | 13:10 | 13:20 | 02-02 | 12774.00 | 12774.00 | Inclination (°): 89.510, Azimuth (°): 179.530, TVD (ft): 10094.06, Dogleg (°/100 ft): 0.46, Sensor Depth (ft): 12717.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill          | 1  | 02-02 | 13:20 | 14:40 | 02-02 | 12774.00 | 12864.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Survey                | 46 | 02-02 | 14:40 | 14:50 | 02-02 | 12864.00 | 12864.00 | Inclination (°): 90.590, Azimuth (°): 178.760, TVD (ft): 10093.98, Dogleg (°/100 ft): 1.47, Sensor Depth (ft): 12807.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill          | 1  | 02-02 | 14:50 | 15:00 | 02-02 | 12864.00 | 12874.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Slide Drill           | 2  | 02-02 | 15:00 | 15:35 | 02-02 | 12874.00 | 12899.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 120, Toolface Type: gravity                 |
| Rotary Drill          | 1  | 02-02 | 15:35 | 16:45 | 02-02 | 12899.00 | 12954.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Rig Service - In Hole | 19 | 02-02 | 16:45 | 17:00 | 02-02 |          |          | RIG SERVICE                                                                                                                                                                                   |
| Survey                | 46 | 02-02 | 17:00 | 17:10 | 02-02 | 12954.00 | 12954.00 | Inclination (°): 89.440, Azimuth (°): 178.700, TVD (ft): 10093.96, Dogleg (°/100 ft): 1.28, Sensor Depth (ft): 12897.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill          | 1  | 02-02 | 17:10 | 17:15 | 02-02 | 12954.00 | 12956.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 50, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 650.00, Strokes Per Minute: 204.00 |
| Slide Drill           | 2  | 02-02 | 17:15 | 18:10 | 02-02 | 12956.00 | 12999.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 90, Toolface Type: gravity                  |
| Rotary Drill          | 1  | 02-02 | 18:10 | 18:50 | 02-02 | 12999.00 | 13043.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey                | 46 | 02-02 | 18:50 | 19:00 | 02-02 | 13043.00 | 13043.00 | Inclination (°): 89.950, Azimuth (°): 179.880, TVD (ft): 10094.43, Dogleg (°/100 ft): 1.44, Sensor Depth (ft): 12986.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill          | 1  | 02-02 | 19:00 | 19:10 | 02-02 | 13043.00 | 13047.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill           | 2  | 02-02 | 19:10 | 20:05 | 02-02 | 13047.00 | 13067.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 90, Toolface Type: gravity                  |

|              |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill | 1  | 02-02 | 20:05 | 21:00 | 02-02 | 13067.00 | 13133.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-02 | 21:00 | 21:10 | 02-02 | 13133.00 | 13133.00 | Inclination (°): 90.120, Azimuth (°): 181.500, TVD (ft): 10094.38, Dogleg (°/100 ft): 1.81, Sensor Depth (ft): 13076.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-02 | 21:10 | 23:00 | 02-02 | 13133.00 | 13222.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-02 | 23:00 | 23:15 | 02-02 | 13222.00 | 13222.00 | Inclination (°): 91.200, Azimuth (°): 181.250, TVD (ft): 10093.35, Dogleg (°/100 ft): 1.25, Sensor Depth (ft): 13165.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-02 | 23:15 | 23:35 | 02-02 | 13222.00 | 13229.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-02 | 23:35 | 00:00 | 02-03 | 13229.00 | 13238.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 160, Toolface Type: gravity                 |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

Monday, Feb 03 00:00 - 23:59 (Day 12 of 20)

Billing: \$10,653.00 (\$247,830.92 total)

| Drilling Summary        |          |                     |       | Drilling Parameters       |                   |
|-------------------------|----------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 13238.00 | Downhole Hours      | 24.00 | Rotating WOB (klbs)       | 45.00 - 45.00     |
| Bit Depth (ft)          | 14313.00 | Drilling Hours      | 21.83 | Sliding WOB (klbs)        | 50.00 - 50.00     |
| Bottom Hole Depth (ft)  | 14313.00 | Hours Circulating   | 0.00  | Rotating SPM              | 219.00 - 219.00   |
| Total Distance (ft)     | 1075.00  | Hours Sliding       | 5.00  | Sliding SPM               | 220.00 - 220.00   |
| Distance Rotated (ft)   | 933.00   | Hours Rotating      | 16.83 | Motor RPM                 | 173.00 - 173.00   |
| Distance Slid (ft)      | 142.00   |                     |       | Surface RPM               | 40.00 - 40.00     |
| Inclination In          | 90.85    |                     |       | Flow Rate (gpm)           | 700.00 - 710.00   |
| Inclination Out         | 88.57    |                     |       | On Bottom Pressure (psi)  | 3500.00 - 4000.00 |
| Azimuth In              | 181.76   | % Hours Rotating    | 77%   | Off Bottom Pressure (psi) | 3000.00 - 3700.00 |
| Azimuth Out             | 179.59   | % Hours Sliding     | 23%   |                           |                   |
| AVG Total ROP (ft/h)    | 48.72    | % Distance Sliding  | 13%   |                           |                   |
| AVG Rotating ROP (ft/h) | 55.43    | % Distance Rotating | 87%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 27.88    |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #6 - BHA #6 (Lateral Assembly)

Date In: Jan 31, 2020, 16:00 Date Out: Feb 4, 2020, 17:30

| Bit Details                |         | Motor Details                                        |          | Directional Comments                                                                                                                                                                  |
|----------------------------|---------|------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500   | Size (in)                                            | 7.0      | 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 350-750,<br>Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs / BIT:<br>Baker Type: DD506TWX SN: 5305211 Jets: 6 x 22 TFA:<br>2.227 Runs: 1 |
| Vendor                     | Baker   | Lobe/Stage                                           | 7/8, 8.5 |                                                                                                                                                                                       |
| S/N                        | 5305211 | Bend Angle                                           | 1.75     |                                                                                                                                                                                       |
| Nozzles                    | 6 x 22  | Speed (rev/gal)                                      | 0.26     |                                                                                                                                                                                       |
| Total Flow Area (in²)      | 2.227   | Wear Pad OD (in)                                     | 7.250    | MWD Comments                                                                                                                                                                          |
| Drilling Hours for Day     | 21.83   | Bit Distances                                        |          |                                                                                                                                                                                       |
| Total Drilled for Day (ft) | 1075.00 | Bend (Bit to Bend): 5.28 ft, Survey (Bit to Survey): |          | POOH Reason                                                                                                                                                                           |
| Drilling Hours for BHA     | 72.92   | 57.00 ft, Gamma (Bit to Gamma): 51.00 ft,            |          |                                                                                                                                                                                       |
| Total Drilled for BHA (ft) | 3622.00 | Resistivity (Bit to Resistivity): 44.00 ft           |          |                                                                                                                                                                                       |
|                            |         |                                                      |          |                                                                                                                                                                                       |
|                            |         |                                                      |          | Penetration Rate: Pooh due to ROP and to Replace Res Tool                                                                                                                             |

## Directional Items

| Description                                                                                                                                               | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: DD506TWX, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50                                                                 | Baker         | 5305211    | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5 | AIM           | 700-40-014 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.23    | 37.23          |
| <b>Drill Collar</b><br>Description: Sensor, Style: Flex Drill, Type: NM                                                                                   | APS           | 609        | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 30.76    | 67.99          |
| <b>Drill Collar</b><br>Description: Power Section, Style: Flex Drill, Type: NM                                                                            | APS           | 65638-2    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 33.56    | 101.55         |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                              | Black Diamond | BD12360    | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 105.10         |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe, Style: Slick                                                                               | RIG           |            | EverDrlg54 Box | EverDrlg54 Pin | 4.000   | 5.500   |              | 2688.68  | 2793.78        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x ED54 Pin), Type: Steel                                                                        | BD            | BD15190    | 4 1/2" IF Box  | EverDrlg54 Pin | 3.500   | 6.750   |              | 3.61     | 2797.39        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                 | NOV           | 675-0078   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.07    | 2822.46        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2 IF Pin), Type: Steel                                                                        | BD            | BD15114    | EverDrlg54 Box | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2826.08        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details |
|---------------|------|------------|------------|----------|----------|------------|----------|------------------|
|---------------|------|------------|------------|----------|----------|------------|----------|------------------|

|              |    |       |       |       |       |          |          |                                                                                                                                                                                                                                                                                                         |
|--------------|----|-------|-------|-------|-------|----------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slide Drill  | 2  | 02-02 | 23:35 | 00:00 | 02-03 | 13229.00 | 13238.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 160, Toolface Type: gravity                                                                                                                           |
| Slide Drill  | 2  | 02-03 | 00:00 | 00:15 | 02-03 | 13238.00 | 13249.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 160, Toolface Type: gravity                                                                                                                           |
| Rotary Drill | 1  | 02-03 | 00:15 | 01:25 | 02-03 | 13249.00 | 13312.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |
| Survey       | 46 | 02-03 | 01:25 | 01:35 | 02-03 | 13312.00 | 13312.00 | Inclination (°): 90.850, Azimuth (°): 181.760, TVD (ft): 10091.74, Dogleg (°/100 ft): 0.69, Sensor Depth (ft): 13255.00, Bit To Sensor (ft): 57.00                                                                                                                                                      |
| Slide Drill  | 2  | 02-03 | 01:35 | 02:20 | 02-03 | 13312.00 | 13339.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 160, Toolface Type: gravity                                                                                                                           |
| Rotary Drill | 1  | 02-03 | 02:20 | 03:30 | 02-03 | 13339.00 | 13401.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |
| Survey       | 46 | 02-03 | 03:30 | 03:45 | 02-03 | 13401.00 | 13401.00 | Inclination (°): 88.910, Azimuth (°): 181.100, TVD (ft): 10091.93, Dogleg (°/100 ft): 2.30, Sensor Depth (ft): 13344.00, Bit To Sensor (ft): 57.00                                                                                                                                                      |
| Rotary Drill | 1  | 02-03 | 03:45 | 05:30 | 02-03 | 13401.00 | 13491.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |
| Survey       | 46 | 02-03 | 05:30 | 05:40 | 02-03 | 13491.00 | 13491.00 | Inclination (°): 89.080, Azimuth (°): 181.250, TVD (ft): 10093.51, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 13434.00, Bit To Sensor (ft): 57.00                                                                                                                                                      |
| Rotary Drill | 1  | 02-03 | 05:40 | 05:55 | 02-03 | 13491.00 | 13506.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |
| Slide Drill  | 2  | 02-03 | 05:55 | 07:15 | 02-03 | 13506.00 | 13520.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 180, Toolface Type: gravity                                                                                                                           |
| Rotary Drill | 1  | 02-03 | 07:15 | 08:30 | 02-03 | 13520.00 | 13581.00 | RECYCLED 2 TIMES AND DOWN LINKED TO A 1.25 PULSE WIDTH. MWD TOOL WOULD NOT GIVE CONSISTENT TOOL FACES.<br>Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-03 | 08:30 | 08:40 | 02-03 | 13581.00 | 13581.00 | Inclination (°): 87.800, Azimuth (°): 180.740, TVD (ft): 10095.96, Dogleg (°/100 ft): 1.53, Sensor Depth (ft): 13524.00, Bit To Sensor (ft): 57.00                                                                                                                                                      |
| Rotary Drill | 1  | 02-03 | 08:40 | 10:20 | 02-03 | 13581.00 | 13670.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |
| Survey       | 46 | 02-03 | 10:20 | 10:30 | 02-03 | 13670.00 | 13670.00 | Inclination (°): 88.100, Azimuth (°): 180.320, TVD (ft): 10099.14, Dogleg (°/100 ft): 0.58, Sensor Depth (ft): 13613.00, Bit To Sensor (ft): 57.00                                                                                                                                                      |
| Rotary Drill | 1  | 02-03 | 10:30 | 12:15 | 02-03 | 13670.00 | 13760.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |
| Survey       | 46 | 02-03 | 12:15 | 12:25 | 02-03 | 13760.00 | 13760.00 | Inclination (°): 87.670, Azimuth (°): 179.070, TVD (ft): 10102.46, Dogleg (°/100 ft): 1.47, Sensor Depth (ft): 13703.00, Bit To Sensor (ft): 57.00                                                                                                                                                      |
| Rotary Drill | 1  | 02-03 | 12:25 | 14:05 | 02-03 | 13760.00 | 13849.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |
| Survey       | 46 | 02-03 | 14:05 | 14:15 | 02-03 | 13849.00 | 13849.00 | Inclination (°): 87.830, Azimuth (°): 178.920, TVD (ft): 10105.96, Dogleg (°/100 ft): 0.25, Sensor Depth (ft): 13792.00, Bit To Sensor (ft): 57.00                                                                                                                                                      |
| Rotary Drill | 1  | 02-03 | 14:15 | 15:40 | 02-03 | 13849.00 | 13939.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |
| Survey       | 46 | 02-03 | 15:40 | 15:50 | 02-03 | 13939.00 | 13939.00 | Inclination (°): 87.970, Azimuth (°): 178.210, TVD (ft): 10109.25, Dogleg (°/100 ft): 0.80, Sensor Depth (ft): 13882.00, Bit To Sensor (ft): 57.00                                                                                                                                                      |
| Rotary Drill | 1  | 02-03 | 15:50 | 16:15 | 02-03 | 13939.00 | 13961.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |
| Slide Drill  | 2  | 02-03 | 16:15 | 17:15 | 02-03 | 13961.00 | 13991.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 90, Toolface Type: gravity                                                                                                                            |
| Rotary Drill | 1  | 02-03 | 17:15 | 17:50 | 02-03 | 13991.00 | 14028.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |
| Survey       | 46 | 02-03 | 17:50 | 18:00 | 02-03 | 14028.00 | 14028.00 | Inclination (°): 90.290, Azimuth (°): 179.490, TVD (ft): 10110.61, Dogleg (°/100 ft): 2.98, Sensor Depth (ft): 13971.00, Bit To Sensor (ft): 57.00                                                                                                                                                      |
| Rotary Drill | 1  | 02-03 | 18:00 | 19:35 | 02-03 | 14028.00 | 14118.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |
| Survey       | 46 | 02-03 | 19:35 | 19:45 | 02-03 | 14118.00 | 14118.00 | Inclination (°): 90.720, Azimuth (°): 179.900, TVD (ft): 10109.81, Dogleg (°/100 ft): 0.66, Sensor Depth (ft): 14061.00, Bit To Sensor (ft): 57.00                                                                                                                                                      |
| Slide Drill  | 2  | 02-03 | 19:45 | 20:40 | 02-03 | 14118.00 | 14148.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 135, Toolface Type: gravity                                                                                                                           |
| Rotary Drill | 1  | 02-03 | 20:40 | 21:30 | 02-03 | 14148.00 | 14208.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |
| Survey       | 46 | 02-03 | 21:30 | 21:40 | 02-03 | 14208.00 | 14208.00 | Inclination (°): 90.450, Azimuth (°): 180.090, TVD (ft): 10108.89, Dogleg (°/100 ft): 0.37, Sensor Depth (ft): 14151.00, Bit To Sensor (ft): 57.00                                                                                                                                                      |
| Rotary Drill | 1  | 02-03 | 21:40 | 21:45 | 02-03 | 14208.00 | 14213.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00                                                                                                           |

|              |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slide Drill  | 2  | 02-03 | 21:45 | 22:30 | 02-03 | 14213.00 | 14243.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 180, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-03 | 22:30 | 23:25 | 02-03 | 14243.00 | 14297.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-03 | 23:25 | 23:40 | 02-03 | 14297.00 | 14297.00 | Inclination (°): 88.570, Azimuth (°): 179.590, TVD (ft): 10109.65, Dogleg (°/100 ft): 2.19, Sensor Depth (ft): 14240.00, Bit To Sensor (ft): 57.00                                            |
| Rotary Drill | 1  | 02-03 | 23:40 | 00:00 | 02-04 | 14297.00 | 14313.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

Tuesday, Feb 04 00:00 - 23:59 (Day 13 of 20)

Billing: \$34,003.00 (\$247,830.92 total)

| Drilling Summary        |          |                     |       | Drilling Parameters       |                   |
|-------------------------|----------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 14313.00 | Downhole Hours      | 21.00 | Rotating WOB (klbs)       | 45.00 - 45.00     |
| Bit Depth (ft)          | 14704.00 | Drilling Hours      | 8.67  | Sliding WOB (klbs)        | 50.00 - 50.00     |
| Bottom Hole Depth (ft)  | 14704.00 | Hours Circulating   | 1.33  | Rotating SPM              | 219.00 - 219.00   |
| Total Distance (ft)     | 391.00   | Hours Sliding       | 1.67  | Sliding SPM               | 220.00 - 220.00   |
| Distance Rotated (ft)   | 341.00   | Hours Rotating      | 7.00  | Motor RPM                 | 60.00 - 173.00    |
| Distance Slid (ft)      | 50.00    |                     |       | Surface RPM               | 40.00 - 40.00     |
| Inclination In          | 89.28    |                     |       | Flow Rate (gpm)           | 700.00 - 710.00   |
| Inclination Out         | 90.12    |                     |       | On Bottom Pressure (psi)  | 3500.00 - 4000.00 |
| Azimuth In              | 179.26   | % Hours Rotating    | 81%   | Off Bottom Pressure (psi) | 3000.00 - 3700.00 |
| Azimuth Out             | 180.96   | % Hours Sliding     | 19%   |                           |                   |
| AVG Total ROP (ft/h)    | 45.22    | % Distance Sliding  | 13%   |                           |                   |
| AVG Rotating ROP (ft/h) | 48.68    | % Distance Rotating | 87%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 30.00    |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #6 - BHA #6 (Lateral Assembly)

Date In: Jan 31, 2020, 16:00 Date Out: Feb 4, 2020, 17:30

| Bit Details                |         | Motor Details                                        |          | Directional Comments                                                                                                                                                                  |
|----------------------------|---------|------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500   | Size (in)                                            | 7.0      | 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 350-750,<br>Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs / BIT:<br>Baker Type: DD506TWX SN: 5305211 Jets: 6 x 22 TFA:<br>2.227 Runs: 1 |
| Vendor                     | Baker   | Lobe/Stage                                           | 7/8, 8.5 |                                                                                                                                                                                       |
| S/N                        | 5305211 | Bend Angle                                           | 1.75     |                                                                                                                                                                                       |
| Nozzles                    | 6 x 22  | Speed (rev/gal)                                      | 0.26     |                                                                                                                                                                                       |
| Total Flow Area (in²)      | 2.227   | Wear Pad OD (in)                                     | 7.250    | MWD Comments                                                                                                                                                                          |
| Drilling Hours for Day     | 8.67    | Bit Distances                                        |          |                                                                                                                                                                                       |
| Total Drilled for Day (ft) | 391.00  | Bend (Bit to Bend): 5.28 ft, Survey (Bit to Survey): |          |                                                                                                                                                                                       |
| Drilling Hours for BHA     | 72.92   | 57.00 ft, Gamma (Bit to Gamma): 51.00 ft,            |          |                                                                                                                                                                                       |
| Total Drilled for BHA (ft) | 3622.00 | Resistivity (Bit to Resistivity): 44.00 ft           |          | POOH Reason                                                                                                                                                                           |
|                            |         |                                                      |          | Penetration Rate: Pooh due to ROP and to Replace Res Tool                                                                                                                             |

## Directional Items

| Description                                                                                                                                               | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: DD506TWX, Style: PDC, Gauge Length (in): 4.00, Size (in): 8.50                                                                 | Baker         | 5305211    | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.00     | 1.00           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5 | AIM           | 700-40-014 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.23    | 37.23          |
| <b>Drill Collar</b><br>Description: Sensor, Style: Flex Drill, Type: NM                                                                                   | APS           | 609        | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 30.76    | 67.99          |
| <b>Drill Collar</b><br>Description: Power Section, Style: Flex Drill, Type: NM                                                                            | APS           | 65638-2    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 3.250   | 6.900   |              | 33.56    | 101.55         |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                              | Black Diamond | BD12360    | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 105.10         |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe, Style: Slick                                                                               | RIG           |            | EverDrlg54 Box | EverDrlg54 Pin | 4.000   | 5.500   |              | 2688.68  | 2793.78        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x ED54 Pin), Type: Steel                                                                        | BD            | BD15190    | 4 1/2" IF Box  | EverDrlg54 Pin | 3.500   | 6.750   |              | 3.61     | 2797.39        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                 | NOV           | 675-0078   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.07    | 2822.46        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2 IF Pin), Type: Steel                                                                        | BD            | BD15114    | EverDrlg54 Box | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2826.08        |

## MWD Items

No Items

## BHA #7 - BHA #7 (Lateral Assembly)

Date In: Feb 4, 2020, 20:30 Date Out: Feb 10, 2020, 5:45

| Bit Details                |             | Motor Details                                        |          | Directional Comments                                                                                                                                                                     |  |
|----------------------------|-------------|------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| OD (in)                    | 8.500       | Size (in)                                            | 7.0      | Motor: 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 450-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs<br>BIT: Halliburton Type: GT65D SN: 13418529 Jets: 6 x 22 TFA: 2.227 Runs: 1 |  |
| Vendor                     | Halliburton | Lobe/Stage                                           | 7/8, 8.5 |                                                                                                                                                                                          |  |
| S/N                        | 13418529    | Bend Angle                                           | 1.75     |                                                                                                                                                                                          |  |
| Nozzles                    | 6 x 22      | Speed (rev/gal)                                      | 0.26     |                                                                                                                                                                                          |  |
| Total Flow Area (in²)      | 2.227       | Wear Pad OD (in)                                     | 7.187    | MWD Comments                                                                                                                                                                             |  |
| Drilling Hours for Day     | 0.00        | Bit Distances                                        |          |                                                                                                                                                                                          |  |
| Total Drilled for Day (ft) |             | Bend (Bit to Bend): 5.32 ft, Survey (Bit to Survey): |          |                                                                                                                                                                                          |  |
| Drilling Hours for BHA     | 83.75       | 71.00 ft, Gamma (Bit to Gamma): 48.00 ft,            |          |                                                                                                                                                                                          |  |
| Total Drilled for BHA (ft) | 5612.00     | Resistivity (Bit to Resistivity): 58.00 ft           |          |                                                                                                                                                                                          |  |
|                            |             |                                                      |          | POOH Reason                                                                                                                                                                              |  |
|                            |             |                                                      |          | Total Depth/Casing Point: N/A                                                                                                                                                            |  |

## Directional Items

| Description                                                                                                                                                        | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: GT65D, Style: PDC,<br>Gauge Length (in): 6.00, Size (in): 8.50                                                                          | Halliburton   | 13418529   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.25     | 1.25           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr<br>Slick, Size (in): 7.00, Bend Angle (°):<br>1.75, Rotor Lobe: 7, Stator Lobe: 8,<br>Stator Stage: 8.5 | AIM           | 700-40-032 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.24    | 37.49          |
| <b>Drill Collar</b><br>Description: Res Collar, Style: Slick<br>Drill, Type: NM                                                                                    | BT            | HPR6501010 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 31.30    | 68.79          |
| <b>Drill Collar</b><br>Description: Battery Sub, Style: Slick<br>Drill, Type: NM                                                                                   | DTI           | DR15750    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 17.48    | 86.27          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                       | Black Diamond | BD12360    | EverDrg54 Box  | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 89.82          |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe,<br>Style: Slick                                                                                     | RIG           |            | EverDrg54 Box  | EverDrg54 Pin  | 4.000   | 5.500   |              | 2688.68  | 2778.50        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x<br>ED54 Pin), Type: Steel                                                                              | BD            | BD15190    | 4 1/2" IF Box  | EverDrg54 Pin  | 3.500   | 6.750   |              | 3.61     | 2782.11        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                          | NOV           | 675-0063   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.43    | 2807.54        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2<br>IF Pin), Type: Steel                                                                              | BD            | BD15114    | EverDrg54 Box  | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2811.16        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details                                                                                                                                                                              |
|---------------|------|------------|------------|----------|----------|------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill  | 1    | 02-03      | 23:40      | 00:00    | 02-04    | 14297.00   | 14313.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Rotary Drill  | 1    | 02-04      | 00:00      | 01:35    | 02-04    | 14313.00   | 14387.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey        | 46   | 02-04      | 01:35      | 01:50    | 02-04    | 14387.00   | 14387.00 | Inclination (°): 89.280, Azimuth (°): 179.260, TVD (ft): 10111.34, Dogleg (°/100 ft): 0.87, Sensor Depth (ft): 14330.00, Bit To Sensor (ft): 57.00                                            |
| Slide Drill   | 2    | 02-04      | 01:50      | 02:50    | 02-04    | 14387.00   | 14417.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 135, Toolface Type: gravity                 |
| Rotary Drill  | 1    | 02-04      | 02:50      | 03:55    | 02-04    | 14417.00   | 14476.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey        | 46   | 02-04      | 03:55      | 04:15    | 02-04    | 14476.00   | 14476.00 | Inclination (°): 90.220, Azimuth (°): 180.440, TVD (ft): 10111.73, Dogleg (°/100 ft): 1.70, Sensor Depth (ft): 14419.00, Bit To Sensor (ft): 57.00                                            |
|               |      |            |            |          |          |            |          | Recycled                                                                                                                                                                                      |
| Rotary Drill  | 1    | 02-04      | 04:15      | 06:05    | 02-04    | 14476.00   | 14565.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey        | 46   | 02-04      | 06:05      | 06:30    | 02-04    | 14565.00   | 14565.00 | Inclination (°): 89.240, Azimuth (°): 181.180, TVD (ft): 10112.15, Dogleg (°/100 ft): 1.38, Sensor Depth (ft): 14508.00, Bit To Sensor (ft): 57.00                                            |
|               |      |            |            |          |          |            |          | Recycled 3 Times                                                                                                                                                                              |
| Rotary Drill  | 1    | 02-04      | 06:30      | 08:20    | 02-04    | 14565.00   | 14655.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey        | 46   | 02-04      | 08:20      | 08:30    | 02-04    | 14655.00   | 14655.00 | Inclination (°): 90.120, Azimuth (°): 180.960, TVD (ft): 10112.65, Dogleg (°/100 ft): 1.01, Sensor Depth (ft): 14598.00, Bit To Sensor (ft): 57.00                                            |

|                       |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|-----------------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill          | 1  | 02-04 | 08:30 | 08:40 | 02-04 | 14655.00 | 14660.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill           | 2  | 02-04 | 08:40 | 09:20 | 02-04 | 14660.00 | 14680.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 160, Toolface Type: gravity                 |
| Rotary Drill          | 1  | 02-04 | 09:20 | 09:50 | 02-04 | 14680.00 | 14704.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Circulating           | 3  | 02-04 | 09:50 | 11:10 | 02-04 |          |          | Circulating to POOH for ROP & Res tool                                                                                                                                                        |
| Pooh                  | 7  | 02-04 | 11:10 | 17:30 | 02-04 |          |          | POOH for ROP                                                                                                                                                                                  |
| Change BHA            | 6  | 02-04 | 17:30 | 20:30 | 02-04 |          |          | P/U BHA # 7                                                                                                                                                                                   |
| Rig Service - In Hole | 19 | 02-04 | 20:30 | 20:55 | 02-04 |          |          | Lubricate Rig                                                                                                                                                                                 |
| TIH                   | 8  | 02-04 | 20:55 | 21:55 | 02-04 |          |          | TIH W/ BHA #7                                                                                                                                                                                 |
| Other                 | 16 | 02-04 | 21:55 | 23:00 | 02-04 |          |          | P/U Agitator and Test. 600# pressure drop                                                                                                                                                     |
| TIH                   | 8  | 02-04 | 23:00 | 00:00 | 02-05 |          |          | TIH W/ BHA #7                                                                                                                                                                                 |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

Wednesday, Feb 05 00:00 - 23:59 (Day 14 of 20)

Billing: \$11,773.00 (\$247,830.92 total)

| Drilling Summary        |          |                     |       | Drilling Parameters       |                   |
|-------------------------|----------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 14704.00 | Downhole Hours      | 24.00 | Rotating WOB (klbs)       | 45.00 - 45.00     |
| Bit Depth (ft)          | 16015.00 | Drilling Hours      | 13.00 | Sliding WOB (klbs)        | 50.00 - 50.00     |
| Bottom Hole Depth (ft)  | 16015.00 | Hours Circulating   | 0.00  | Rotating SPM              | 219.00 - 219.00   |
| Total Distance (ft)     | 1311.00  | Hours Sliding       | 2.33  | Sliding SPM               | 219.00 - 220.00   |
| Distance Rotated (ft)   | 1199.00  | Hours Rotating      | 10.67 | Motor RPM                 | 60.00 - 40.00     |
| Distance Slid (ft)      | 112.00   |                     |       | Surface RPM               | 40.00 - 40.00     |
| Inclination In          | 90.33    |                     |       | Flow Rate (gpm)           | 700.00 - 710.00   |
| Inclination Out         | 90.55    |                     |       | On Bottom Pressure (psi)  | 3500.00 - 4500.00 |
| Azimuth In              | 180.35   | % Hours Rotating    | 82%   | Off Bottom Pressure (psi) | 3000.00 - 4200.00 |
| Azimuth Out             | 177.27   | % Hours Sliding     | 18%   |                           |                   |
| AVG Total ROP (ft/h)    | 100.85   | % Distance Sliding  | 9%    |                           |                   |
| AVG Rotating ROP (ft/h) | 112.41   | % Distance Rotating | 91%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 48.00    |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #7 - BHA #7 (Lateral Assembly)

Date In: Feb 4, 2020, 20:30 Date Out: Feb 10, 2020, 5:45

| Bit Details                |             | Motor Details                                                                                                                             |          | Directional Comments                                                                                                                                                                     |
|----------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500       | Size (in)                                                                                                                                 | 7.0      | Motor: 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 450-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs<br>BIT: Halliburton Type: GT65D SN: 13418529 Jets: 6 x 22 TFA: 2.227 Runs: 1 |
| Vendor                     | Halliburton | Lobe/Stage                                                                                                                                | 7/8, 8.5 |                                                                                                                                                                                          |
| S/N                        | 13418529    | Bend Angle                                                                                                                                | 1.75     |                                                                                                                                                                                          |
| Nozzles                    | 6 x 22      | Speed (rev/gal)                                                                                                                           | 0.26     |                                                                                                                                                                                          |
| Total Flow Area (in²)      | 2.227       | Wear Pad OD (in)                                                                                                                          | 7.187    | MWD Comments                                                                                                                                                                             |
| Drilling Hours for Day     | 13.00       | Bit Distances                                                                                                                             |          |                                                                                                                                                                                          |
| Total Drilled for Day (ft) | 1311.00     | Bend (Bit to Bend): 5.32 ft, Survey (Bit to Survey): 71.00 ft, Gamma (Bit to Gamma): 48.00 ft, Resistivity (Bit to Resistivity): 58.00 ft |          |                                                                                                                                                                                          |
| Drilling Hours for BHA     | 83.75       |                                                                                                                                           |          | POOH Reason                                                                                                                                                                              |
| Total Drilled for BHA (ft) | 5612.00     |                                                                                                                                           |          | Total Depth/Casing Point: N/A                                                                                                                                                            |

## Directional Items

| Description                                                                                                                                                        | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: GT65D, Style: PDC,<br>Gauge Length (in): 6.00, Size (in): 8.50                                                                          | Halliburton   | 13418529   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.25     | 1.25           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr<br>Slick, Size (in): 7.00, Bend Angle (°):<br>1.75, Rotor Lobe: 7, Stator Lobe: 8,<br>Stator Stage: 8.5 | AIM           | 700-40-032 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.24    | 37.49          |
| <b>Drill Collar</b><br>Description: Res Collar, Style: Slick<br>Drill, Type: NM                                                                                    | BT            | HPR6501010 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 31.30    | 68.79          |
| <b>Drill Collar</b><br>Description: Battery Sub, Style: Slick<br>Drill, Type: NM                                                                                   | DTI           | DR15750    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 17.48    | 86.27          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                       | Black Diamond | BD12360    | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 89.82          |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe,<br>Style: Slick                                                                                     | RIG           |            | EverDrlg54 Box | EverDrlg54 Pin | 4.000   | 5.500   |              | 2688.68  | 2778.50        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x<br>ED54 Pin), Type: Steel                                                                              | BD            | BD15190    | 4 1/2" IF Box  | EverDrlg54 Pin | 3.500   | 6.750   |              | 3.61     | 2782.11        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                          | NOV           | 675-0063   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.43    | 2807.54        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2<br>IF Pin), Type: Steel                                                                              | BD            | BD15114    | EverDrlg54 Box | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2811.16        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details |
|---------------|------|------------|------------|----------|----------|------------|----------|------------------|
| TIH           | 8    | 02-04      | 23:00      | 00:00    | 02-05    |            |          | TIH W/ BHA #7    |
| TIH           | 8    | 02-05      | 00:00      | 07:15    | 02-05    |            |          | TIH W/ BHA #7    |

|              |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other        | 16 | 02-05 | 07:15 | 07:35 | 02-05 |          |          | DOWNLINK MWD TOOL                                                                                                                                                                             |
| Other        | 16 | 02-05 | 07:35 | 08:00 | 02-05 |          |          | RELOG GAMMA                                                                                                                                                                                   |
| Rotary Drill | 1  | 02-05 | 08:00 | 08:10 | 02-05 | 14704.00 | 14730.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-05 | 08:10 | 08:15 | 02-05 | 14730.00 | 14730.00 | Inclination (°): 90.330, Azimuth (°): 180.350, TVD (ft): 10112.41, Dogleg (°/100 ft): 1.06, Sensor Depth (ft): 14659.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-05 | 08:15 | 08:55 | 02-05 | 14730.00 | 14819.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-05 | 08:55 | 09:00 | 02-05 | 14819.00 | 14819.00 | Inclination (°): 88.660, Azimuth (°): 180.350, TVD (ft): 10113.20, Dogleg (°/100 ft): 1.88, Sensor Depth (ft): 14748.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-05 | 09:00 | 09:45 | 02-05 | 14819.00 | 14909.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-05 | 09:45 | 09:50 | 02-05 | 14909.00 | 14909.00 | Inclination (°): 87.600, Azimuth (°): 179.290, TVD (ft): 10116.13, Dogleg (°/100 ft): 1.67, Sensor Depth (ft): 14838.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-05 | 09:50 | 09:55 | 02-05 | 14909.00 | 14915.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-05 | 09:55 | 10:10 | 02-05 | 14915.00 | 14930.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 30, Toolface Type: gravity                  |
| Rotary Drill | 1  | 02-05 | 10:10 | 10:45 | 02-05 | 14930.00 | 14999.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-05 | 10:45 | 10:50 | 02-05 | 14999.00 | 14999.00 | Inclination (°): 87.560, Azimuth (°): 179.380, TVD (ft): 10119.94, Dogleg (°/100 ft): 0.11, Sensor Depth (ft): 14928.00, Bit To Sensor (ft): 71.00                                            |
| Slide Drill  | 2  | 02-05 | 10:50 | 11:25 | 02-05 | 14999.00 | 15029.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 30, Toolface Type: gravity                  |
| Rotary Drill | 1  | 02-05 | 11:25 | 12:05 | 02-05 | 15029.00 | 15088.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-05 | 12:05 | 12:10 | 02-05 | 15088.00 | 15088.00 | Inclination (°): 90.460, Azimuth (°): 182.630, TVD (ft): 10121.47, Dogleg (°/100 ft): 4.89, Sensor Depth (ft): 15017.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-05 | 12:10 | 12:35 | 02-05 | 15088.00 | 15120.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-05 | 12:35 | 13:05 | 02-05 | 15120.00 | 15145.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 0, Toolface Type: gravity                   |
| Rotary Drill | 1  | 02-05 | 13:05 | 13:25 | 02-05 | 15145.00 | 15178.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-05 | 13:25 | 13:30 | 02-05 | 15178.00 | 15178.00 | Inclination (°): 90.370, Azimuth (°): 181.580, TVD (ft): 10120.82, Dogleg (°/100 ft): 1.17, Sensor Depth (ft): 15107.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-05 | 13:30 | 14:05 | 02-05 | 15178.00 | 15225.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-05 | 14:05 | 14:30 | 02-05 | 15225.00 | 15243.00 | Pressure On (psi): 4000.00, Pressure Off (psi): 3700.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 710.00, Strokes Per Minute: 220, Toolface: 30, Toolface Type: gravity                  |
| Rotary Drill | 1  | 02-05 | 14:30 | 14:50 | 02-05 | 15243.00 | 15268.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-05 | 14:50 | 14:55 | 02-05 | 15268.00 | 15268.00 | Inclination (°): 92.400, Azimuth (°): 180.960, TVD (ft): 10118.65, Dogleg (°/100 ft): 2.36, Sensor Depth (ft): 15197.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-05 | 14:55 | 15:50 | 02-05 | 15268.00 | 15357.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-05 | 15:50 | 15:55 | 02-05 | 15357.00 | 15357.00 | Inclination (°): 93.890, Azimuth (°): 181.050, TVD (ft): 10113.76, Dogleg (°/100 ft): 1.68, Sensor Depth (ft): 15286.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-05 | 15:55 | 16:35 | 02-05 | 15357.00 | 15447.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-05 | 16:35 | 16:45 | 02-05 | 15447.00 | 15447.00 | Inclination (°): 93.930, Azimuth (°): 180.610, TVD (ft): 10107.63, Dogleg (°/100 ft): 0.49, Sensor Depth (ft): 15376.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-05 | 16:45 | 17:40 | 02-05 | 15447.00 | 15537.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-05 | 17:40 | 17:45 | 02-05 | 15537.00 | 15537.00 | Inclination (°): 93.800, Azimuth (°): 180.520, TVD (ft): 10101.56, Dogleg (°/100 ft): 0.18, Sensor Depth (ft): 15466.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-05 | 17:45 | 18:35 | 02-05 | 15537.00 | 15626.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-05 | 18:35 | 18:40 | 02-05 | 15626.00 | 15626.00 | Inclination (°): 92.700, Azimuth (°): 179.910, TVD (ft): 10096.51, Dogleg (°/100 ft): 1.41, Sensor Depth (ft): 15555.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-05 | 18:40 | 19:20 | 02-05 | 15626.00 | 15716.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-05 | 19:20 | 19:25 | 02-05 | 15716.00 | 15716.00 | Inclination (°): 91.960, Azimuth (°): 179.650, TVD (ft): 10092.86, Dogleg (°/100 ft): 0.87, Sensor Depth (ft): 15645.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-05 | 19:25 | 20:05 | 02-05 | 15716.00 | 15805.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |

|                       |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|-----------------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Survey                | 46 | 02-05 | 20:05 | 20:10 | 02-05 | 15805.00 | 15805.00 | Inclination (°): 91.340, Azimuth (°): 178.680, TVD (ft): 10090.29, Dogleg (%/100 ft): 1.29, Sensor Depth (ft): 15734.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill          | 1  | 02-05 | 20:10 | 20:45 | 02-05 | 15805.00 | 15895.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Rig Service - In Hole | 19 | 02-05 | 20:45 | 22:25 | 02-05 |          |          | C/O Swivel Packing                                                                                                                                                                            |
| Survey                | 46 | 02-05 | 22:25 | 22:30 | 02-05 | 15895.00 | 15895.00 | Inclination (°): 90.950, Azimuth (°): 177.980, TVD (ft): 10088.49, Dogleg (%/100 ft): 0.89, Sensor Depth (ft): 15824.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill          | 1  | 02-05 | 22:30 | 23:15 | 02-05 | 15895.00 | 15985.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey                | 46 | 02-05 | 23:15 | 23:20 | 02-05 | 15985.00 | 15985.00 | Inclination (°): 90.550, Azimuth (°): 177.270, TVD (ft): 10087.32, Dogleg (%/100 ft): 0.91, Sensor Depth (ft): 15914.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill          | 1  | 02-05 | 23:20 | 23:25 | 02-05 | 15985.00 | 15991.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill           | 2  | 02-05 | 23:25 | 00:00 | 02-06 | 15991.00 | 16015.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 45, Toolface Type: gravity                  |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

Thursday, Feb 06 00:00 - 23:59 (Day 15 of 20)

Billing: \$10,000.00 (\$247,830.92 total)

| Drilling Summary        |          |                     |       | Drilling Parameters       |                   |
|-------------------------|----------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 16015.00 | Downhole Hours      | 24.00 | Rotating WOB (klbs)       | 45.00 - 45.00     |
| Bit Depth (ft)          | 17686.00 | Drilling Hours      | 21.75 | Sliding WOB (klbs)        | 50.00 - 50.00     |
| Bottom Hole Depth (ft)  | 17686.00 | Hours Circulating   | 0.00  | Rotating SPM              | 219.00 - 219.00   |
| Total Distance (ft)     | 1671.00  | Hours Sliding       | 6.83  | Sliding SPM               | 219.00 - 219.00   |
| Distance Rotated (ft)   | 1390.00  | Hours Rotating      | 14.92 | Motor RPM                 | 60.00 - 40.00     |
| Distance Slid (ft)      | 281.00   |                     |       | Surface RPM               | 40.00 - 40.00     |
| Inclination In          | 89.80    |                     |       | Flow Rate (gpm)           | 700.00 - 700.00   |
| Inclination Out         | 90.29    |                     |       | On Bottom Pressure (psi)  | 3500.00 - 4500.00 |
| Azimuth In              | 178.68   | % Hours Rotating    | 69%   | Off Bottom Pressure (psi) | 3000.00 - 4200.00 |
| Azimuth Out             | 180.00   | % Hours Sliding     | 31%   |                           |                   |
| AVG Total ROP (ft/h)    | 75.90    | % Distance Sliding  | 17%   |                           |                   |
| AVG Rotating ROP (ft/h) | 93.18    | % Distance Rotating | 83%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 41.12    |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #7 - BHA #7 (Lateral Assembly)

Date In: Feb 4, 2020, 20:30 Date Out: Feb 10, 2020, 5:45

| Bit Details                |             | Motor Details                                                                                                                             |          | Directional Comments                                                                                                                                                                     |
|----------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500       | Size (in)                                                                                                                                 | 7.0      | Motor: 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 450-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs<br>BIT: Halliburton Type: GT65D SN: 13418529 Jets: 6 x 22 TFA: 2.227 Runs: 1 |
| Vendor                     | Halliburton | Lobe/Stage                                                                                                                                | 7/8, 8.5 |                                                                                                                                                                                          |
| S/N                        | 13418529    | Bend Angle                                                                                                                                | 1.75     |                                                                                                                                                                                          |
| Nozzles                    | 6 x 22      | Speed (rev/gal)                                                                                                                           | 0.26     |                                                                                                                                                                                          |
| Total Flow Area (in²)      | 2.227       | Wear Pad OD (in)                                                                                                                          | 7.187    | MWD Comments                                                                                                                                                                             |
| Drilling Hours for Day     | 21.75       | Bit Distances                                                                                                                             |          |                                                                                                                                                                                          |
| Total Drilled for Day (ft) | 1671.00     | Bend (Bit to Bend): 5.32 ft, Survey (Bit to Survey): 71.00 ft, Gamma (Bit to Gamma): 48.00 ft, Resistivity (Bit to Resistivity): 58.00 ft |          | POOH Reason                                                                                                                                                                              |
| Drilling Hours for BHA     | 83.75       |                                                                                                                                           |          |                                                                                                                                                                                          |
| Total Drilled for BHA (ft) | 5612.00     |                                                                                                                                           |          |                                                                                                                                                                                          |
|                            |             |                                                                                                                                           |          | Total Depth/Casing Point: N/A                                                                                                                                                            |

## Directional Items

| Description                                                                                                                                                        | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: GT65D, Style: PDC,<br>Gauge Length (in): 6.00, Size (in): 8.50                                                                          | Halliburton   | 13418529   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.25     | 1.25           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr<br>Slick, Size (in): 7.00, Bend Angle (°):<br>1.75, Rotor Lobe: 7, Stator Lobe: 8,<br>Stator Stage: 8.5 | AIM           | 700-40-032 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.24    | 37.49          |
| <b>Drill Collar</b><br>Description: Res Collar, Style: Slick<br>Drill, Type: NM                                                                                    | BT            | HPR6501010 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 31.30    | 68.79          |
| <b>Drill Collar</b><br>Description: Battery Sub, Style: Slick<br>Drill, Type: NM                                                                                   | DTI           | DR15750    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 17.48    | 86.27          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                       | Black Diamond | BD12360    | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 89.82          |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe,<br>Style: Slick                                                                                     | RIG           |            | EverDrlg54 Box | EverDrlg54 Pin | 4.000   | 5.500   |              | 2688.68  | 2778.50        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x<br>ED54 Pin), Type: Steel                                                                              | BD            | BD15190    | 4 1/2" IF Box  | EverDrlg54 Pin | 3.500   | 6.750   |              | 3.61     | 2782.11        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                          | NOV           | 675-0063   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.43    | 2807.54        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2<br>IF Pin), Type: Steel                                                                              | BD            | BD15114    | EverDrlg54 Box | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2811.16        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details |
|---------------|------|------------|------------|----------|----------|------------|----------|------------------|
|---------------|------|------------|------------|----------|----------|------------|----------|------------------|

|              |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slide Drill  | 2  | 02-05 | 23:25 | 00:00 | 02-06 | 15991.00 | 16015.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 45, Toolface Type: gravity                  |
| Slide Drill  | 2  | 02-06 | 00:00 | 00:05 | 02-06 | 16015.00 | 16021.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 45, Toolface Type: gravity                  |
| Rotary Drill | 1  | 02-06 | 00:05 | 00:35 | 02-06 | 16021.00 | 16074.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 00:35 | 00:40 | 02-06 | 16074.00 | 16074.00 | Inclination (°): 89.800, Azimuth (°): 178.680, TVD (ft): 10087.04, Dogleg (°/100 ft): 1.79, Sensor Depth (ft): 16003.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 00:40 | 01:00 | 02-06 | 16074.00 | 16110.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-06 | 01:00 | 01:50 | 02-06 | 16110.00 | 16150.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 0, Toolface Type: gravity                   |
| Rotary Drill | 1  | 02-06 | 01:50 | 01:55 | 02-06 | 16150.00 | 16164.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 01:55 | 02:00 | 02-06 | 16164.00 | 16164.00 | Inclination (°): 88.310, Azimuth (°): 177.800, TVD (ft): 10088.53, Dogleg (°/100 ft): 1.92, Sensor Depth (ft): 16093.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 02:00 | 02:10 | 02-06 | 16164.00 | 16172.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-06 | 02:10 | 02:55 | 02-06 | 16172.00 | 16202.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 60, Toolface Type: gravity                  |
| Rotary Drill | 1  | 02-06 | 02:55 | 03:10 | 02-06 | 16202.00 | 16253.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 03:10 | 03:15 | 02-06 | 16253.00 | 16253.00 | Inclination (°): 94.590, Azimuth (°): 180.960, TVD (ft): 10086.28, Dogleg (°/100 ft): 7.90, Sensor Depth (ft): 16182.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 03:15 | 04:10 | 02-06 | 16253.00 | 16343.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 04:10 | 04:15 | 02-06 | 16343.00 | 16343.00 | Inclination (°): 95.380, Azimuth (°): 181.490, TVD (ft): 10078.46, Dogleg (°/100 ft): 1.06, Sensor Depth (ft): 16272.00, Bit To Sensor (ft): 71.00                                            |
| Slide Drill  | 2  | 02-06 | 04:15 | 04:50 | 02-06 | 16343.00 | 16363.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 160, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-06 | 04:50 | 05:25 | 02-06 | 16363.00 | 16432.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 05:25 | 05:30 | 02-06 | 16432.00 | 16432.00 | Inclination (°): 93.050, Azimuth (°): 181.760, TVD (ft): 10071.92, Dogleg (°/100 ft): 2.64, Sensor Depth (ft): 16361.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 05:30 | 05:45 | 02-06 | 16432.00 | 16438.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-06 | 05:45 | 06:00 | 02-06 | 16438.00 | 16463.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 160, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-06 | 06:00 | 06:45 | 02-06 | 16463.00 | 16522.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 06:45 | 06:50 | 02-06 | 16522.00 | 16522.00 | Inclination (°): 91.160, Azimuth (°): 183.780, TVD (ft): 10068.61, Dogleg (°/100 ft): 3.07, Sensor Depth (ft): 16451.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 06:50 | 08:30 | 02-06 | 16522.00 | 16611.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 08:30 | 08:35 | 02-06 | 16611.00 | 16611.00 | Inclination (°): 89.800, Azimuth (°): 183.690, TVD (ft): 10067.86, Dogleg (°/100 ft): 1.53, Sensor Depth (ft): 16540.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 08:35 | 09:35 | 02-06 | 16611.00 | 16701.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 09:35 | 09:40 | 02-06 | 16701.00 | 16701.00 | Inclination (°): 90.640, Azimuth (°): 183.950, TVD (ft): 10067.52, Dogleg (°/100 ft): 0.98, Sensor Depth (ft): 16630.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 09:40 | 09:50 | 02-06 | 16701.00 | 16710.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-06 | 09:50 | 10:20 | 02-06 | 16710.00 | 16735.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 200, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-06 | 10:20 | 10:55 | 02-06 | 16735.00 | 16790.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 10:55 | 11:00 | 02-06 | 16790.00 | 16790.00 | Inclination (°): 88.750, Azimuth (°): 183.070, TVD (ft): 10067.99, Dogleg (°/100 ft): 2.34, Sensor Depth (ft): 16719.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 11:00 | 11:45 | 02-06 | 16790.00 | 16880.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 11:45 | 11:50 | 02-06 | 16880.00 | 16880.00 | Inclination (°): 86.900, Azimuth (°): 183.070, TVD (ft): 10071.41, Dogleg (°/100 ft): 2.06, Sensor Depth (ft): 16809.00, Bit To Sensor (ft): 71.00                                            |
| Slide Drill  | 2  | 02-06 | 11:50 | 12:45 | 02-06 | 16880.00 | 16920.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 280, Toolface Type: gravity                 |

|              |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill | 1  | 02-06 | 12:45 | 13:10 | 02-06 | 16920.00 | 16969.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 13:10 | 13:15 | 02-06 | 16969.00 | 16969.00 | Inclination (°): 86.510, Azimuth (°): 180.960, TVD (ft): 10076.52, Dogleg (°/100 ft): 2.41, Sensor Depth (ft): 16898.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 13:15 | 14:15 | 02-06 | 16969.00 | 17059.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 14:15 | 14:20 | 02-06 | 17059.00 | 17059.00 | Inclination (°): 85.850, Azimuth (°): 178.150, TVD (ft): 10082.52, Dogleg (°/100 ft): 3.20, Sensor Depth (ft): 16988.00, Bit To Sensor (ft): 71.00                                            |
| Slide Drill  | 2  | 02-06 | 14:20 | 15:15 | 02-06 | 17059.00 | 17089.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 0, Toolface Type: gravity                   |
| Rotary Drill | 1  | 02-06 | 15:15 | 15:40 | 02-06 | 17089.00 | 17149.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 15:40 | 15:50 | 02-06 | 17149.00 | 17149.00 | Inclination (°): 88.220, Azimuth (°): 178.060, TVD (ft): 10087.18, Dogleg (°/100 ft): 2.64, Sensor Depth (ft): 17078.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 15:50 | 16:35 | 02-06 | 17149.00 | 17239.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 16:35 | 16:40 | 02-06 | 17239.00 | 17239.00 | Inclination (°): 89.010, Azimuth (°): 177.010, TVD (ft): 10089.35, Dogleg (°/100 ft): 1.46, Sensor Depth (ft): 17168.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 16:40 | 17:30 | 02-06 | 17239.00 | 17328.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 17:30 | 17:35 | 02-06 | 17328.00 | 17328.00 | Inclination (°): 87.600, Azimuth (°): 176.830, TVD (ft): 10091.98, Dogleg (°/100 ft): 1.60, Sensor Depth (ft): 17257.00, Bit To Sensor (ft): 71.00                                            |
| Slide Drill  | 2  | 02-06 | 17:35 | 18:00 | 02-06 | 17328.00 | 17338.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 60, Toolface Type: gravity                  |
| Rig Repair   | 14 | 02-06 | 18:00 | 18:35 | 02-06 |          |          | 2 Mud Pumps down                                                                                                                                                                              |
| Slide Drill  | 2  | 02-06 | 18:35 | 19:20 | 02-06 | 17338.00 | 17363.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 60, Toolface Type: gravity                  |
| Rotary Drill | 1  | 02-06 | 19:20 | 19:50 | 02-06 | 17363.00 | 17418.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 19:50 | 19:55 | 02-06 | 17418.00 | 17418.00 | Inclination (°): 88.130, Azimuth (°): 178.500, TVD (ft): 10095.34, Dogleg (°/100 ft): 1.95, Sensor Depth (ft): 17347.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 19:55 | 20:40 | 02-06 | 17418.00 | 17507.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 20:40 | 20:45 | 02-06 | 17507.00 | 17507.00 | Inclination (°): 87.470, Azimuth (°): 178.940, TVD (ft): 10098.75, Dogleg (°/100 ft): 0.89, Sensor Depth (ft): 17436.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 20:45 | 22:10 | 02-06 | 17507.00 | 17597.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 22:10 | 22:15 | 02-06 | 17597.00 | 17597.00 | Inclination (°): 88.440, Azimuth (°): 180.610, TVD (ft): 10101.96, Dogleg (°/100 ft): 2.14, Sensor Depth (ft): 17526.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-06 | 22:15 | 22:30 | 02-06 | 17597.00 | 17602.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-06 | 22:30 | 23:20 | 02-06 | 17602.00 | 17632.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 340, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-06 | 23:20 | 23:55 | 02-06 | 17632.00 | 17686.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-06 | 23:55 | 00:00 | 02-07 | 17686.00 | 17686.00 | Inclination (°): 90.290, Azimuth (°): 180.000, TVD (ft): 10102.95, Dogleg (°/100 ft): 2.19, Sensor Depth (ft): 17615.00, Bit To Sensor (ft): 71.00                                            |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

Friday, Feb 07 00:00 - 23:59 (Day 16 of 20)

Billing: \$10,000.00 (\$247,830.92 total)

| Drilling Summary        |          |                     |       | Drilling Parameters       |                   |
|-------------------------|----------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 17686.00 | Downhole Hours      | 24.00 | Rotating WOB (klbs)       | 45.00 - 45.00     |
| Bit Depth (ft)          | 18998.00 | Drilling Hours      | 20.75 | Sliding WOB (klbs)        | 50.00 - 50.00     |
| Bottom Hole Depth (ft)  | 18998.00 | Hours Circulating   | 0.00  | Rotating SPM              | 219.00 - 219.00   |
| Total Distance (ft)     | 1312.00  | Hours Sliding       | 6.00  | Sliding SPM               | 219.00 - 219.00   |
| Distance Rotated (ft)   | 1132.00  | Hours Rotating      | 14.75 | Motor RPM                 | 60.00 - 40.00     |
| Distance Slid (ft)      | 180.00   |                     |       | Surface RPM               | 40.00 - 40.00     |
| Inclination In          | 90.46    |                     |       | Flow Rate (gpm)           | 700.00 - 700.00   |
| Inclination Out         | 87.91    |                     |       | On Bottom Pressure (psi)  | 3500.00 - 5000.00 |
| Azimuth In              | 179.47   | % Hours Rotating    | 71%   | Off Bottom Pressure (psi) | 3000.00 - 4500.00 |
| Azimuth Out             | 179.82   | % Hours Sliding     | 29%   |                           |                   |
| AVG Total ROP (ft/h)    | 63.23    | % Distance Sliding  | 14%   |                           |                   |
| AVG Rotating ROP (ft/h) | 76.75    | % Distance Rotating | 86%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 30.00    |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #7 - BHA #7 (Lateral Assembly)

Date In: Feb 4, 2020, 20:30 Date Out: Feb 10, 2020, 5:45

| Bit Details                |             | Motor Details                                                                                                                             |          | Directional Comments                                                                                                                                                                     |
|----------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500       | Size (in)                                                                                                                                 | 7.0      | Motor: 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 450-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs<br>BIT: Halliburton Type: GT65D SN: 13418529 Jets: 6 x 22 TFA: 2.227 Runs: 1 |
| Vendor                     | Halliburton | Lobe/Stage                                                                                                                                | 7/8, 8.5 |                                                                                                                                                                                          |
| S/N                        | 13418529    | Bend Angle                                                                                                                                | 1.75     |                                                                                                                                                                                          |
| Nozzles                    | 6 x 22      | Speed (rev/gal)                                                                                                                           | 0.26     |                                                                                                                                                                                          |
| Total Flow Area (in²)      | 2.227       | Wear Pad OD (in)                                                                                                                          | 7.187    | MWD Comments                                                                                                                                                                             |
| Drilling Hours for Day     | 20.75       | Bit Distances                                                                                                                             |          |                                                                                                                                                                                          |
| Total Drilled for Day (ft) | 1312.00     | Bend (Bit to Bend): 5.32 ft, Survey (Bit to Survey): 71.00 ft, Gamma (Bit to Gamma): 48.00 ft, Resistivity (Bit to Resistivity): 58.00 ft |          | POOH Reason                                                                                                                                                                              |
| Drilling Hours for BHA     | 83.75       |                                                                                                                                           |          |                                                                                                                                                                                          |
| Total Drilled for BHA (ft) | 5612.00     |                                                                                                                                           |          | Total Depth/Casing Point: N/A                                                                                                                                                            |

## Directional Items

| Description                                                                                                                                                        | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: GT65D, Style: PDC,<br>Gauge Length (in): 6.00, Size (in): 8.50                                                                          | Halliburton   | 13418529   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.25     | 1.25           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr<br>Slick, Size (in): 7.00, Bend Angle (°):<br>1.75, Rotor Lobe: 7, Stator Lobe: 8,<br>Stator Stage: 8.5 | AIM           | 700-40-032 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.24    | 37.49          |
| <b>Drill Collar</b><br>Description: Res Collar, Style: Slick<br>Drill, Type: NM                                                                                    | BT            | HPR6501010 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 31.30    | 68.79          |
| <b>Drill Collar</b><br>Description: Battery Sub, Style: Slick<br>Drill, Type: NM                                                                                   | DTI           | DR15750    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 17.48    | 86.27          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                       | Black Diamond | BD12360    | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 89.82          |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe,<br>Style: Slick                                                                                     | RIG           |            | EverDrlg54 Box | EverDrlg54 Pin | 4.000   | 5.500   |              | 2688.68  | 2778.50        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x<br>ED54 Pin), Type: Steel                                                                              | BD            | BD15190    | 4 1/2" IF Box  | EverDrlg54 Pin | 3.500   | 6.750   |              | 3.61     | 2782.11        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                          | NOV           | 675-0063   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.43    | 2807.54        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2<br>IF Pin), Type: Steel                                                                              | BD            | BD15114    | EverDrlg54 Box | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2811.16        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details                                                                                                                                      |
|---------------|------|------------|------------|----------|----------|------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Survey        | 46   | 02-06      | 23:55      | 00:00    | 02-07    | 17686.00   | 17686.00 | Inclination (°): 90.290, Azimuth (°): 180.000, TVD (ft): 10102.95, Dogleg<br>(°/100 ft): 2.19, Sensor Depth (ft): 17615.00, Bit To Sensor (ft): 71.00 |

|              |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill | 1  | 02-07 | 00:00 | 01:10 | 02-07 | 17686.00 | 17776.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 01:10 | 01:15 | 02-07 | 17776.00 | 17776.00 | Inclination (°): 90.460, Azimuth (°): 179.470, TVD (ft): 10102.36, Dogleg (°/100 ft): 0.62, Sensor Depth (ft): 17705.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-07 | 01:15 | 02:25 | 02-07 | 17776.00 | 17865.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 02:25 | 02:30 | 02-07 | 17865.00 | 17865.00 | Inclination (°): 90.110, Azimuth (°): 177.710, TVD (ft): 10101.92, Dogleg (°/100 ft): 2.02, Sensor Depth (ft): 17794.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-07 | 02:30 | 02:40 | 02-07 | 17865.00 | 17870.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-07 | 02:40 | 03:25 | 02-07 | 17870.00 | 17895.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 80, Toolface Type: gravity                  |
| Rotary Drill | 1  | 02-07 | 03:25 | 04:05 | 02-07 | 17895.00 | 17955.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 04:05 | 04:10 | 02-07 | 17955.00 | 17955.00 | Inclination (°): 91.300, Azimuth (°): 178.770, TVD (ft): 10100.81, Dogleg (°/100 ft): 1.77, Sensor Depth (ft): 17884.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-07 | 04:10 | 05:00 | 02-07 | 17955.00 | 18045.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 05:00 | 05:05 | 02-07 | 18045.00 | 18045.00 | Inclination (°): 92.000, Azimuth (°): 177.890, TVD (ft): 10098.22, Dogleg (°/100 ft): 1.25, Sensor Depth (ft): 17974.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-07 | 05:05 | 05:20 | 02-07 | 18045.00 | 18055.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-07 | 05:20 | 06:20 | 02-07 | 18055.00 | 18095.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 120, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-07 | 06:20 | 06:50 | 02-07 | 18095.00 | 18134.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Other        | 16 | 02-07 | 06:50 | 07:10 | 02-07 |          |          | DOWNLINK MWD TOOL                                                                                                                                                                             |
| Survey       | 46 | 02-07 | 07:10 | 07:15 | 02-07 | 18134.00 | 18134.00 | Inclination (°): 92.840, Azimuth (°): 178.770, TVD (ft): 10094.46, Dogleg (°/100 ft): 1.37, Sensor Depth (ft): 18063.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-07 | 07:15 | 07:20 | 02-07 | 18134.00 | 18142.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Other        | 16 | 02-07 | 07:20 | 07:50 | 02-07 |          |          | DOWNLINK MWD TOOL                                                                                                                                                                             |
| Rotary Drill | 1  | 02-07 | 07:50 | 08:45 | 02-07 | 18142.00 | 18223.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 08:45 | 09:00 | 02-07 | 18223.00 | 18223.00 | Inclination (°): 92.570, Azimuth (°): 181.400, TVD (ft): 10090.26, Dogleg (°/100 ft): 2.97, Sensor Depth (ft): 18152.00, Bit To Sensor (ft): 71.00                                            |
| Slide Drill  | 2  | 02-07 | 09:00 | 10:05 | 02-07 | 18223.00 | 18253.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 170, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-07 | 10:05 | 11:00 | 02-07 | 18253.00 | 18313.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 11:00 | 11:10 | 02-07 | 18313.00 | 18313.00 | Inclination (°): 89.630, Azimuth (°): 181.320, TVD (ft): 10088.53, Dogleg (°/100 ft): 3.27, Sensor Depth (ft): 18242.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-07 | 11:10 | 12:15 | 02-07 | 18313.00 | 18403.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 12:15 | 12:20 | 02-07 | 18403.00 | 18403.00 | Inclination (°): 91.030, Azimuth (°): 181.670, TVD (ft): 10088.02, Dogleg (°/100 ft): 1.60, Sensor Depth (ft): 18332.00, Bit To Sensor (ft): 71.00                                            |
| Other        | 16 | 02-07 | 12:20 | 13:15 | 02-07 |          |          | RECYCLE & DOWNLINK MWD TOOL                                                                                                                                                                   |
| Slide Drill  | 2  | 02-07 | 13:15 | 14:00 | 02-07 | 18403.00 | 18423.00 | Pressure On (psi): 4500.00, Pressure Off (psi): 4200.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 200, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-07 | 14:00 | 14:40 | 02-07 | 18423.00 | 18492.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 14:40 | 14:50 | 02-07 | 18492.00 | 18492.00 | Inclination (°): 87.250, Azimuth (°): 178.860, TVD (ft): 10089.35, Dogleg (°/100 ft): 5.29, Sensor Depth (ft): 18421.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-07 | 14:50 | 15:45 | 02-07 | 18492.00 | 18581.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 15:45 | 15:50 | 02-07 | 18581.00 | 18581.00 | Inclination (°): 86.810, Azimuth (°): 178.590, TVD (ft): 10093.96, Dogleg (°/100 ft): 0.58, Sensor Depth (ft): 18510.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-07 | 15:50 | 16:50 | 02-07 | 18581.00 | 18671.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 16:50 | 16:55 | 02-07 | 18671.00 | 18671.00 | Inclination (°): 87.380, Azimuth (°): 178.060, TVD (ft): 10098.52, Dogleg (°/100 ft): 0.86, Sensor Depth (ft): 18600.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-07 | 16:55 | 18:30 | 02-07 | 18671.00 | 18761.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 18:30 | 18:35 | 02-07 | 18761.00 | 18761.00 | Inclination (°): 87.160, Azimuth (°): 176.750, TVD (ft): 10102.81, Dogleg (°/100 ft): 1.47, Sensor Depth (ft): 18690.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-07 | 18:35 | 18:45 | 02-07 | 18761.00 | 18765.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |

|              |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slide Drill  | 2  | 02-07 | 18:45 | 20:05 | 02-07 | 18765.00 | 18800.00 | Toolface: 60, Toolface Type: <i>gravity</i>                                                                                                                                                   |
| Rotary Drill | 1  | 02-07 | 20:05 | 20:45 | 02-07 | 18800.00 | 18850.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 20:45 | 20:50 | 02-07 | 18850.00 | 18850.00 | Inclination (°): 87.340, Azimuth (°): 178.590, TVD (ft): 10107.08, Dogleg (°/100 ft): 2.07, Sensor Depth (ft): 18779.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-07 | 20:50 | 22:20 | 02-07 | 18850.00 | 18940.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-07 | 22:20 | 22:25 | 02-07 | 18940.00 | 18940.00 | Inclination (°): 87.910, Azimuth (°): 179.820, TVD (ft): 10110.81, Dogleg (°/100 ft): 1.51, Sensor Depth (ft): 18869.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-07 | 22:25 | 22:35 | 02-07 | 18940.00 | 18945.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-07 | 22:35 | 23:40 | 02-07 | 18945.00 | 18975.00 | Pressure On (psi): 5000.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 20, Toolface Type: <i>gravity</i>           |
| Rotary Drill | 1  | 02-07 | 23:40 | 00:00 | 02-08 | 18975.00 | 18998.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

Saturday, Feb 08 00:00 - 23:59 (Day 17 of 20)

Billing: \$10,000.00 (\$247,830.92 total)

| Drilling Summary        |          |                     |       | Drilling Parameters       |                   |
|-------------------------|----------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 18998.00 | Downhole Hours      | 24.00 | Rotating WOB (klbs)       | 45.00 - 45.00     |
| Bit Depth (ft)          | 20073.00 | Drilling Hours      | 22.83 | Sliding WOB (klbs)        | 50.00 - 50.00     |
| Bottom Hole Depth (ft)  | 20073.00 | Hours Circulating   | 0.00  | Rotating SPM              | 219.00 - 219.00   |
| Total Distance (ft)     | 1075.00  | Hours Sliding       | 6.75  | Sliding SPM               | 219.00 - 219.00   |
| Distance Rotated (ft)   | 935.00   | Hours Rotating      | 16.08 | Motor RPM                 | 60.00 - 40.00     |
| Distance Slid (ft)      | 140.00   |                     |       | Surface RPM               | 40.00 - 40.00     |
| Inclination In          | 90.99    |                     |       | Flow Rate (gpm)           | 700.00 - 700.00   |
| Inclination Out         | 87.87    |                     |       | On Bottom Pressure (psi)  | 3500.00 - 5000.00 |
| Azimuth In              | 179.65   | % Hours Rotating    | 70%   | Off Bottom Pressure (psi) | 3000.00 - 4500.00 |
| Azimuth Out             | 178.06   | % Hours Sliding     | 30%   |                           |                   |
| AVG Total ROP (ft/h)    | 47.40    | % Distance Sliding  | 13%   |                           |                   |
| AVG Rotating ROP (ft/h) | 58.36    | % Distance Rotating | 87%   |                           |                   |
| AVG Sliding ROP (ft/h)  | 20.74    |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #7 - BHA #7 (Lateral Assembly)

Date In: Feb 4, 2020, 20:30 Date Out: Feb 10, 2020, 5:45

| Bit Details                |             | Motor Details                                        |          | Directional Comments                                                                                                                                                                     |
|----------------------------|-------------|------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500       | Size (in)                                            | 7.0      | Motor: 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 450-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs<br>BIT: Halliburton Type: GT65D SN: 13418529 Jets: 6 x 22 TFA: 2.227 Runs: 1 |
| Vendor                     | Halliburton | Lobe/Stage                                           | 7/8, 8.5 |                                                                                                                                                                                          |
| S/N                        | 13418529    | Bend Angle                                           | 1.75     |                                                                                                                                                                                          |
| Nozzles                    | 6 x 22      | Speed (rev/gal)                                      | 0.26     |                                                                                                                                                                                          |
| Total Flow Area (in²)      | 2.227       | Wear Pad OD (in)                                     | 7.187    | MWD Comments                                                                                                                                                                             |
| Drilling Hours for Day     | 22.83       | Bit Distances                                        |          |                                                                                                                                                                                          |
| Total Drilled for Day (ft) | 1075.00     | Bend (Bit to Bend): 5.32 ft, Survey (Bit to Survey): |          |                                                                                                                                                                                          |
| Drilling Hours for BHA     | 83.75       | 71.00 ft, Gamma (Bit to Gamma): 48.00 ft,            |          |                                                                                                                                                                                          |
| Total Drilled for BHA (ft) | 5612.00     | Resistivity (Bit to Resistivity): 58.00 ft           |          |                                                                                                                                                                                          |
|                            |             |                                                      |          | POOH Reason                                                                                                                                                                              |
|                            |             |                                                      |          | Total Depth/Casing Point: N/A                                                                                                                                                            |

## Directional Items

| Description                                                                                                                                                        | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: GT65D, Style: PDC,<br>Gauge Length (in): 6.00, Size (in): 8.50                                                                          | Halliburton   | 13418529   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.25     | 1.25           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr<br>Slick, Size (in): 7.00, Bend Angle (°):<br>1.75, Rotor Lobe: 7, Stator Lobe: 8,<br>Stator Stage: 8.5 | AIM           | 700-40-032 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.24    | 37.49          |
| <b>Drill Collar</b><br>Description: Res Collar, Style: Slick<br>Drill, Type: NM                                                                                    | BT            | HPR6501010 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 31.30    | 68.79          |
| <b>Drill Collar</b><br>Description: Battery Sub, Style: Slick<br>Drill, Type: NM                                                                                   | DTI           | DR15750    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 17.48    | 86.27          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                                       | Black Diamond | BD12360    | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 89.82          |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe,<br>Style: Slick                                                                                     | RIG           |            | EverDrlg54 Box | EverDrlg54 Pin | 4.000   | 5.500   |              | 2688.68  | 2778.50        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x<br>ED54 Pin), Type: Steel                                                                              | BD            | BD15190    | 4 1/2" IF Box  | EverDrlg54 Pin | 3.500   | 6.750   |              | 3.61     | 2782.11        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                          | NOV           | 675-0063   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.43    | 2807.54        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2<br>IF Pin), Type: Steel                                                                              | BD            | BD15114    | EverDrlg54 Box | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2811.16        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details |
|---------------|------|------------|------------|----------|----------|------------|----------|------------------|
|---------------|------|------------|------------|----------|----------|------------|----------|------------------|

|              |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill | 1  | 02-07 | 23:40 | 00:00 | 02-08 | 18975.00 | 18998.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Rotary Drill | 1  | 02-08 | 00:00 | 00:40 | 02-08 | 18998.00 | 19030.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-08 | 00:40 | 00:45 | 02-08 | 19030.00 | 19030.00 | Inclination (°): 90.990, Azimuth (°): 179.650, TVD (ft): 10111.67, Dogleg (°/100 ft): 3.43, Sensor Depth (ft): 18959.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-08 | 00:45 | 01:50 | 02-08 | 19030.00 | 19120.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-08 | 01:50 | 01:55 | 02-08 | 19120.00 | 19120.00 | Inclination (°): 92.440, Azimuth (°): 179.290, TVD (ft): 10108.98, Dogleg (°/100 ft): 1.66, Sensor Depth (ft): 19049.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-08 | 01:55 | 03:15 | 02-08 | 19120.00 | 19209.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-08 | 03:15 | 03:20 | 02-08 | 19209.00 | 19209.00 | Inclination (°): 93.450, Azimuth (°): 178.590, TVD (ft): 10104.41, Dogleg (°/100 ft): 1.38, Sensor Depth (ft): 19138.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-08 | 03:20 | 03:30 | 02-08 | 19209.00 | 19214.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-08 | 03:30 | 04:35 | 02-08 | 19214.00 | 19239.00 | Pressure On (psi): 5000.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 180, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-08 | 04:35 | 05:10 | 02-08 | 19239.00 | 19267.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-08 | 05:10 | 05:55 | 02-08 | 19267.00 | 19287.00 | Pressure On (psi): 5000.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 180, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-08 | 05:55 | 06:10 | 02-08 | 19287.00 | 19299.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-08 | 06:10 | 06:15 | 02-08 | 19299.00 | 19299.00 | Inclination (°): 93.490, Azimuth (°): 178.860, TVD (ft): 10098.96, Dogleg (°/100 ft): 0.30, Sensor Depth (ft): 19228.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-08 | 06:15 | 06:40 | 02-08 | 19299.00 | 19333.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-08 | 06:40 | 08:50 | 02-08 | 19333.00 | 19373.00 | Pressure On (psi): 5000.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 180, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-08 | 08:50 | 09:15 | 02-08 | 19373.00 | 19389.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-08 | 09:15 | 09:20 | 02-08 | 19389.00 | 19389.00 | Inclination (°): 93.450, Azimuth (°): 181.400, TVD (ft): 10093.51, Dogleg (°/100 ft): 2.82, Sensor Depth (ft): 19318.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-08 | 09:20 | 11:00 | 02-08 | 19389.00 | 19478.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-08 | 11:00 | 11:05 | 02-08 | 19478.00 | 19478.00 | Inclination (°): 89.050, Azimuth (°): 182.280, TVD (ft): 10091.57, Dogleg (°/100 ft): 5.04, Sensor Depth (ft): 19407.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-08 | 11:05 | 11:30 | 02-08 | 19478.00 | 19495.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-08 | 11:30 | 12:15 | 02-08 | 19495.00 | 19505.00 | Pressure On (psi): 5000.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 200, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-08 | 12:15 | 13:25 | 02-08 | 19505.00 | 19568.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-08 | 13:25 | 13:30 | 02-08 | 19568.00 | 19568.00 | Inclination (°): 90.240, Azimuth (°): 181.760, TVD (ft): 10092.13, Dogleg (°/100 ft): 1.44, Sensor Depth (ft): 19497.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-08 | 13:30 | 13:40 | 02-08 | 19568.00 | 19575.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-08 | 13:40 | 14:15 | 02-08 | 19575.00 | 19585.00 | Pressure On (psi): 5000.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 180, Toolface Type: gravity                 |
| Rig Repair   | 14 | 02-08 | 14:15 | 14:25 | 02-08 |          |          | PUMP #2 DOWN - RECYCLE                                                                                                                                                                        |
| Slide Drill  | 2  | 02-08 | 14:25 | 15:05 | 02-08 | 19585.00 | 19595.00 | Pressure On (psi): 5000.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 180, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-08 | 15:05 | 16:20 | 02-08 | 19595.00 | 19657.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-08 | 16:20 | 16:25 | 02-08 | 19657.00 | 19657.00 | Inclination (°): 89.580, Azimuth (°): 181.050, TVD (ft): 10092.27, Dogleg (°/100 ft): 1.09, Sensor Depth (ft): 19586.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-08 | 16:25 | 18:10 | 02-08 | 19657.00 | 19747.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-08 | 18:10 | 18:15 | 02-08 | 19747.00 | 19747.00 | Inclination (°): 87.690, Azimuth (°): 180.170, TVD (ft): 10094.41, Dogleg (°/100 ft): 2.32, Sensor Depth (ft): 19676.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-08 | 18:15 | 19:45 | 02-08 | 19747.00 | 19836.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |

|              |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Survey       | 46 | 02-08 | 19:45 | 19:50 | 02-08 | 19836.00 | 19836.00 | Inclination (°): 87.560, Azimuth (°): 180.000, TVD (ft): 10098.10, Dogleg (°/100 ft): 0.24, Sensor Depth (ft): 19765.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-08 | 19:50 | 20:55 | 02-08 | 19836.00 | 19926.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-08 | 20:55 | 21:00 | 02-08 | 19926.00 | 19926.00 | Inclination (°): 87.340, Azimuth (°): 179.650, TVD (ft): 10102.11, Dogleg (°/100 ft): 0.46, Sensor Depth (ft): 19855.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-08 | 21:00 | 21:10 | 02-08 | 19926.00 | 19931.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Slide Drill  | 2  | 02-08 | 21:10 | 21:55 | 02-08 | 19931.00 | 19956.00 | Pressure On (psi): 5000.00, Pressure Off (psi): 4500.00, Weight On Bit (klbs): 50.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219, Toolface: 340, Toolface Type: gravity                 |
| Rotary Drill | 1  | 02-08 | 21:55 | 22:50 | 02-08 | 19956.00 | 20015.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-08 | 22:50 | 22:55 | 02-08 | 20015.00 | 20015.00 | Inclination (°): 87.870, Azimuth (°): 178.060, TVD (ft): 10105.83, Dogleg (°/100 ft): 1.88, Sensor Depth (ft): 19944.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-08 | 22:55 | 00:00 | 02-09 | 20015.00 | 20073.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

Sunday, Feb 09 00:00 - 23:59 (Day 18 of 20)

Billing: \$10,000.00 (\$247,830.92 total)

| Drilling Summary        |          |                     |       | Drilling Parameters       |                   |
|-------------------------|----------|---------------------|-------|---------------------------|-------------------|
| Start Depth (ft)        | 20073.00 | Downhole Hours      | 24.00 | Rotating WOB (klbs)       | 45.00 - 45.00     |
| Bit Depth (ft)          | 20316.00 | Drilling Hours      | 5.42  | Sliding WOB (klbs)        |                   |
| Bottom Hole Depth (ft)  | 20316.00 | Hours Circulating   | 3.83  | Rotating SPM              | 219.00 - 219.00   |
| Total Distance (ft)     | 243.00   | Hours Sliding       | 0.00  | Sliding SPM               |                   |
| Distance Rotated (ft)   | 243.00   | Hours Rotating      | 5.42  | Motor RPM                 | 60.00 - 40.00     |
| Distance Slid (ft)      | 0.00     |                     |       | Surface RPM               | 40.00 - 40.00     |
| Inclination In          | 88.57    |                     |       | Flow Rate (gpm)           | 700.00 - 700.00   |
| Inclination Out         | 88.35    |                     |       | On Bottom Pressure (psi)  | 3500.00 - 3500.00 |
| Azimuth In              | 176.75   | % Hours Rotating    | 100%  | Off Bottom Pressure (psi) | 3000.00 - 3000.00 |
| Azimuth Out             | 177.01   | % Hours Sliding     | 0%    |                           |                   |
| AVG Total ROP (ft/h)    | 46.31    | % Distance Sliding  | 0%    |                           |                   |
| AVG Rotating ROP (ft/h) | 46.31    | % Distance Rotating | 100%  |                           |                   |
| AVG Sliding ROP (ft/h)  | 0.00     |                     |       |                           |                   |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #7 - BHA #7 (Lateral Assembly)

Date In: Feb 4, 2020, 20:30 Date Out: Feb 10, 2020, 5:45

| Bit Details                |             | Motor Details                                                                                                                             |          | Directional Comments                                                                                                                                                                     |
|----------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500       | Size (in)                                                                                                                                 | 7.0      | Motor: 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 450-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs<br>BIT: Halliburton Type: GT65D SN: 13418529 Jets: 6 x 22 TFA: 2.227 Runs: 1 |
| Vendor                     | Halliburton | Lobe/Stage                                                                                                                                | 7/8, 8.5 |                                                                                                                                                                                          |
| S/N                        | 13418529    | Bend Angle                                                                                                                                | 1.75     |                                                                                                                                                                                          |
| Nozzles                    | 6 x 22      | Speed (rev/gal)                                                                                                                           | 0.26     |                                                                                                                                                                                          |
| Total Flow Area (in²)      | 2.227       | Wear Pad OD (in)                                                                                                                          | 7.187    | MWD Comments                                                                                                                                                                             |
| Drilling Hours for Day     | 5.42        | Bit Distances                                                                                                                             |          |                                                                                                                                                                                          |
| Total Drilled for Day (ft) | 243.00      | Bend (Bit to Bend): 5.32 ft, Survey (Bit to Survey): 71.00 ft, Gamma (Bit to Gamma): 48.00 ft, Resistivity (Bit to Resistivity): 58.00 ft |          | POOH Reason<br>Total Depth/Casing Point: N/A                                                                                                                                             |
| Drilling Hours for BHA     | 83.75       |                                                                                                                                           |          |                                                                                                                                                                                          |
| Total Drilled for BHA (ft) | 5612.00     |                                                                                                                                           |          |                                                                                                                                                                                          |

## Directional Items

| Description                                                                                                                                               | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: GT65D, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50                                                                    | Halliburton   | 13418529   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.25     | 1.25           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5 | AIM           | 700-40-032 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.24    | 37.49          |
| <b>Drill Collar</b><br>Description: Res Collar, Style: Slick Drill, Type: NM                                                                              | BT            | HPR6501010 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 31.30    | 68.79          |
| <b>Drill Collar</b><br>Description: Battery Sub, Style: Slick Drill, Type: NM                                                                             | DTI           | DR15750    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 17.48    | 86.27          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                              | Black Diamond | BD12360    | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 89.82          |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe, Style: Slick                                                                               | RIG           |            | EverDrlg54 Box | EverDrlg54 Pin | 4.000   | 5.500   |              | 2688.68  | 2778.50        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x ED54 Pin), Type: Steel                                                                        | BD            | BD15190    | 4 1/2" IF Box  | EverDrlg54 Pin | 3.500   | 6.750   |              | 3.61     | 2782.11        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                 | NOV           | 675-0063   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.43    | 2807.54        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2 IF Pin), Type: Steel                                                                        | BD            | BD15114    | EverDrlg54 Box | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2811.16        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details |
|---------------|------|------------|------------|----------|----------|------------|----------|------------------|
|---------------|------|------------|------------|----------|----------|------------|----------|------------------|

|              |    |       |       |       |       |          |          |                                                                                                                                                                                               |
|--------------|----|-------|-------|-------|-------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotary Drill | 1  | 02-08 | 22:55 | 00:00 | 02-09 | 20015.00 | 20073.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Rotary Drill | 1  | 02-09 | 00:00 | 00:40 | 02-09 | 20073.00 | 20105.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-09 | 00:40 | 00:45 | 02-09 | 20105.00 | 20105.00 | Inclination (°): 88.570, Azimuth (°): 176.750, TVD (ft): 10108.62, Dogleg (°/100 ft): 1.65, Sensor Depth (ft): 20034.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-09 | 00:45 | 02:25 | 02-09 | 20105.00 | 20195.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-09 | 02:25 | 02:30 | 02-09 | 20195.00 | 20195.00 | Inclination (°): 89.320, Azimuth (°): 176.920, TVD (ft): 10110.28, Dogleg (°/100 ft): 0.85, Sensor Depth (ft): 20124.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-09 | 02:30 | 04:30 | 02-09 | 20195.00 | 20284.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Survey       | 46 | 02-09 | 04:30 | 04:35 | 02-09 | 20284.00 | 20284.00 | Inclination (°): 88.350, Azimuth (°): 177.010, TVD (ft): 10112.09, Dogleg (°/100 ft): 1.09, Sensor Depth (ft): 20213.00, Bit To Sensor (ft): 71.00                                            |
| Rotary Drill | 1  | 02-09 | 04:35 | 05:40 | 02-09 | 20284.00 | 20316.00 | Pressure On (psi): 3500.00, Pressure Off (psi): 3000.00, Weight On Bit (klbs): 45.00, Surface RPM: 40, Surface Torque (ft lbf): 20000.00, Flow Rate (gpm): 700.00, Strokes Per Minute: 219.00 |
| Circulating  | 3  | 02-09 | 05:40 | 09:30 | 02-09 |          |          | Circulate & condition                                                                                                                                                                         |
| Pooh         | 7  | 02-09 | 09:30 | 14:15 | 02-09 |          |          | POOH for TD                                                                                                                                                                                   |
| Logging      | 11 | 02-09 | 14:15 | 00:35 | 02-10 |          |          | RE-LOGGING                                                                                                                                                                                    |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
|                                 |                                                     | <b>Company Man</b>                                       |

Monday, Feb 10 00:00 - 23:59 (Day 19 of 20)

Billing: \$22,070.92 (\$247,830.92 total)

| Drilling Summary        |      |                     | Drilling Parameters |                           |
|-------------------------|------|---------------------|---------------------|---------------------------|
| Start Depth (ft)        |      | Downhole Hours      | 5.75                | Rotating WOB (klbs)       |
| Bit Depth (ft)          |      | Drilling Hours      | 0.00                | Sliding WOB (klbs)        |
| Bottom Hole Depth (ft)  |      | Hours Circulating   | 0.00                | Rotating SPM              |
| Total Distance (ft)     | 0.00 | Hours Sliding       | 0.00                | Sliding SPM               |
| Distance Rotated (ft)   | 0.00 | Hours Rotating      | 0.00                | Motor RPM                 |
| Distance Slid (ft)      | 0.00 |                     |                     | 60.00 - 40.00             |
| Inclination In          |      |                     |                     | Surface RPM               |
| Inclination Out         |      |                     |                     | Flow Rate (gpm)           |
| Azimuth In              |      | % Hours Rotating    |                     | On Bottom Pressure (psi)  |
| Azimuth Out             |      | % Hours Sliding     |                     | Off Bottom Pressure (psi) |
| AVG Total ROP (ft/h)    | 0.00 | % Distance Sliding  |                     |                           |
| AVG Rotating ROP (ft/h) | 0.00 | % Distance Rotating |                     |                           |
| AVG Sliding ROP (ft/h)  | 0.00 |                     |                     |                           |

## Personnel

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

## BHA #7 - BHA #7 (Lateral Assembly)

Date In: Feb 4, 2020, 20:30 Date Out: Feb 10, 2020, 5:45

| Bit Details                |             | Motor Details                                                                                                                             |          | Directional Comments                                                                                                                                                                     |
|----------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD (in)                    | 8.500       | Size (in)                                                                                                                                 | 7.0      | Motor: 1.75° FBH 7/8 8.5 Stg Mtr. Slick / Flow Rate: 450-750, Max Diff: 1910 psi, Max Torque: 18,710 ft-lbs<br>BIT: Halliburton Type: GT65D SN: 13418529 Jets: 6 x 22 TFA: 2.227 Runs: 1 |
| Vendor                     | Halliburton | Lobe/Stage                                                                                                                                | 7/8, 8.5 |                                                                                                                                                                                          |
| S/N                        | 13418529    | Bend Angle                                                                                                                                | 1.75     |                                                                                                                                                                                          |
| Nozzles                    | 6 x 22      | Speed (rev/gal)                                                                                                                           | 0.26     |                                                                                                                                                                                          |
| Total Flow Area (in²)      | 2.227       | Wear Pad OD (in)                                                                                                                          | 7.187    | MWD Comments                                                                                                                                                                             |
| Drilling Hours for Day     | 0.00        | Bit Distances                                                                                                                             |          |                                                                                                                                                                                          |
| Total Drilled for Day (ft) |             | Bend (Bit to Bend): 5.32 ft, Survey (Bit to Survey): 71.00 ft, Gamma (Bit to Gamma): 48.00 ft, Resistivity (Bit to Resistivity): 58.00 ft |          | POOH Reason<br>Total Depth/Casing Point: N/A                                                                                                                                             |
| Drilling Hours for BHA     | 83.75       |                                                                                                                                           |          |                                                                                                                                                                                          |
| Total Drilled for BHA (ft) | 5612.00     |                                                                                                                                           |          |                                                                                                                                                                                          |

## Directional Items

| Description                                                                                                                                               | Vendor        | SN#        | Top Conn       | Btm Conn       | ID (in) | OD (in) | Fn Len. (ft) | Len (ft) | Aggr. Len (ft) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------|----------------|---------|---------|--------------|----------|----------------|
| <b>Bit</b><br>Description: GT65D, Style: PDC, Gauge Length (in): 6.00, Size (in): 8.50                                                                    | Halliburton   | 13418529   | 4 1/2" Reg Pin |                |         | 8.500   |              | 1.25     | 1.25           |
| <b>Mud Motor</b><br>Description: 1.75° FBH 7/8 8.5 Stg Mtr Slick, Size (in): 7.00, Bend Angle (°): 1.75, Rotor Lobe: 7, Stator Lobe: 8, Stator Stage: 8.5 | AIM           | 700-40-032 | 4 1/2" IF Box  | 4 1/2" Reg Box |         | 7.000   |              | 36.24    | 37.49          |
| <b>Drill Collar</b><br>Description: Res Collar, Style: Slick Drill, Type: NM                                                                              | BT            | HPR6501010 | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 31.30    | 68.79          |
| <b>Drill Collar</b><br>Description: Battery Sub, Style: Slick Drill, Type: NM                                                                             | DTI           | DR15750    | 4 1/2" IF Box  | 4 1/2" IF Pin  | 2.750   | 6.750   |              | 17.48    | 86.27          |
| <b>Crossover Sub</b><br>Description: X-Over Sub, Type: Steel                                                                                              | Black Diamond | BD12360    | EverDrlg54 Box | 4 1/2" IF Pin  | 2.938   | 6.750   |              | 3.55     | 89.82          |
| <b>Drill Pipe</b><br>Description: (30 Stands) 5.5" Drill Pipe, Style: Slick                                                                               | RIG           |            | EverDrlg54 Box | EverDrlg54 Pin | 4.000   | 5.500   |              | 2688.68  | 2778.50        |
| <b>Crossover Sub</b><br>Description: X-Over (4 1/2 IF Box x ED54 Pin), Type: Steel                                                                        | BD            | BD15190    | 4 1/2" IF Box  | EverDrlg54 Pin | 3.500   | 6.750   |              | 3.61     | 2782.11        |
| <b>Agitator</b><br>Description: Agitator, Size (in): 7.00                                                                                                 | NOV           | 675-0063   | 4 1/2" IF Box  | 4 1/2" IF Pin  |         | 7.000   |              | 25.43    | 2807.54        |
| <b>Crossover Sub</b><br>Description: X-Over (ED54 Box x 4 1/2 IF Pin), Type: Steel                                                                        | BD            | BD15114    | EverDrlg54 Box | 4 1/2" IF Pin  | 3.000   | 6.750   |              | 3.62     | 2811.16        |

## MWD Items

No Items

## Directional Activities

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details    |
|---------------|------|------------|------------|----------|----------|------------|----------|---------------------|
| Logging       | 11   | 02-09      | 14:15      | 00:35    | 02-10    |            |          | RE-LOGGING          |
| Pooh          | 7    | 02-10      | 00:35      | 05:45    | 02-10    |            |          | POOH for CASING OPS |

|            |    |       |       |       |       |  |  |                          |
|------------|----|-------|-------|-------|-------|--|--|--------------------------|
| Change BHA | 6  | 02-10 | 05:45 | 06:45 | 02-10 |  |  | L/D BHA # 7              |
| Standby    | 15 | 02-10 | 06:45 | 06:00 | 02-11 |  |  | Standby while CASING OPS |

**MWD Activities**

No Activities



|                                 |                                                     |                                                          |
|---------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| <b>Job Number</b><br>WT-20-001  | <b>Operator</b><br>Advance Energy Partners          | <b>Rig Name</b><br>H&P #389                              |
| <b>Start Date</b><br>2020-01-13 | <b>Well Name</b><br>Merchant State Unit 301H        | <b>Legal Well Name   AFE</b><br>Merchant State Unit 301H |
| <b>Play</b><br>Delaware Basin   | <b>State/Province and Country</b><br>New Mexico, US | <b>County</b><br>Lea                                     |
| <b>Company Man</b>              |                                                     |                                                          |

Tuesday, Feb 11 00:00 - 23:59 (Day 20 of 20)

Billing: N/A (\$247,830.92 total)

| Drilling Summary        |      |                     |      | Drilling Parameters       |   |
|-------------------------|------|---------------------|------|---------------------------|---|
| Start Depth (ft)        |      | Downhole Hours      | 0.00 | Rotating WOB (klbs)       |   |
| Bit Depth (ft)          |      | Drilling Hours      | 0.00 | Sliding WOB (klbs)        |   |
| Bottom Hole Depth (ft)  |      | Hours Circulating   | 0.00 | Rotating SPM              |   |
| Total Distance (ft)     | 0.00 | Hours Sliding       | 0.00 | Sliding SPM               |   |
| Distance Rotated (ft)   | 0.00 | Hours Rotating      | 0.00 | Motor RPM                 | - |
| Distance Slid (ft)      | 0.00 |                     |      | Surface RPM               |   |
| Inclination In          |      |                     |      | Flow Rate (gpm)           |   |
| Inclination Out         |      |                     |      | On Bottom Pressure (psi)  |   |
| Azimuth In              |      | % Hours Rotating    |      | Off Bottom Pressure (psi) |   |
| Azimuth Out             |      | % Hours Sliding     |      |                           |   |
| AVG Total ROP (ft/h)    | 0.00 | % Distance Sliding  |      |                           |   |
| AVG Rotating ROP (ft/h) | 0.00 | % Distance Rotating |      |                           |   |
| AVG Sliding ROP (ft/h)  | 0.00 |                     |      |                           |   |

**Personnel**

| Name                | Position            |
|---------------------|---------------------|
| Advance Directional | Directional Driller |
| Robert Olivarez     | MWD Engineer        |
| Joel Johnson        | Directional Driller |

**No BHAs****Directional Activities**

| Activity Type | Code | Start Date | Start Time | End Time | End Date | Start (ft) | End (ft) | Comments/Details         |
|---------------|------|------------|------------|----------|----------|------------|----------|--------------------------|
| Standby       | 15   | 02-10      | 06:45      | 06:00    | 02-11    |            |          | Standby while CASING OPS |

**MWD Activities**

No Activities



# Surface Plat

---

## Merchant State Unit 301H (WT-20-001)

2020-01-13 to 2020-02-11

Lea, New Mexico, US (32.44, -103.55)

---

## 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) 476-3480 Fax: (505) 476-3482State of New Mexico  
Energy, Minerals and Natural Resources Department

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Form C-102

Revised August 4, 2011

Submit one copy to appropriate  
District Office

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

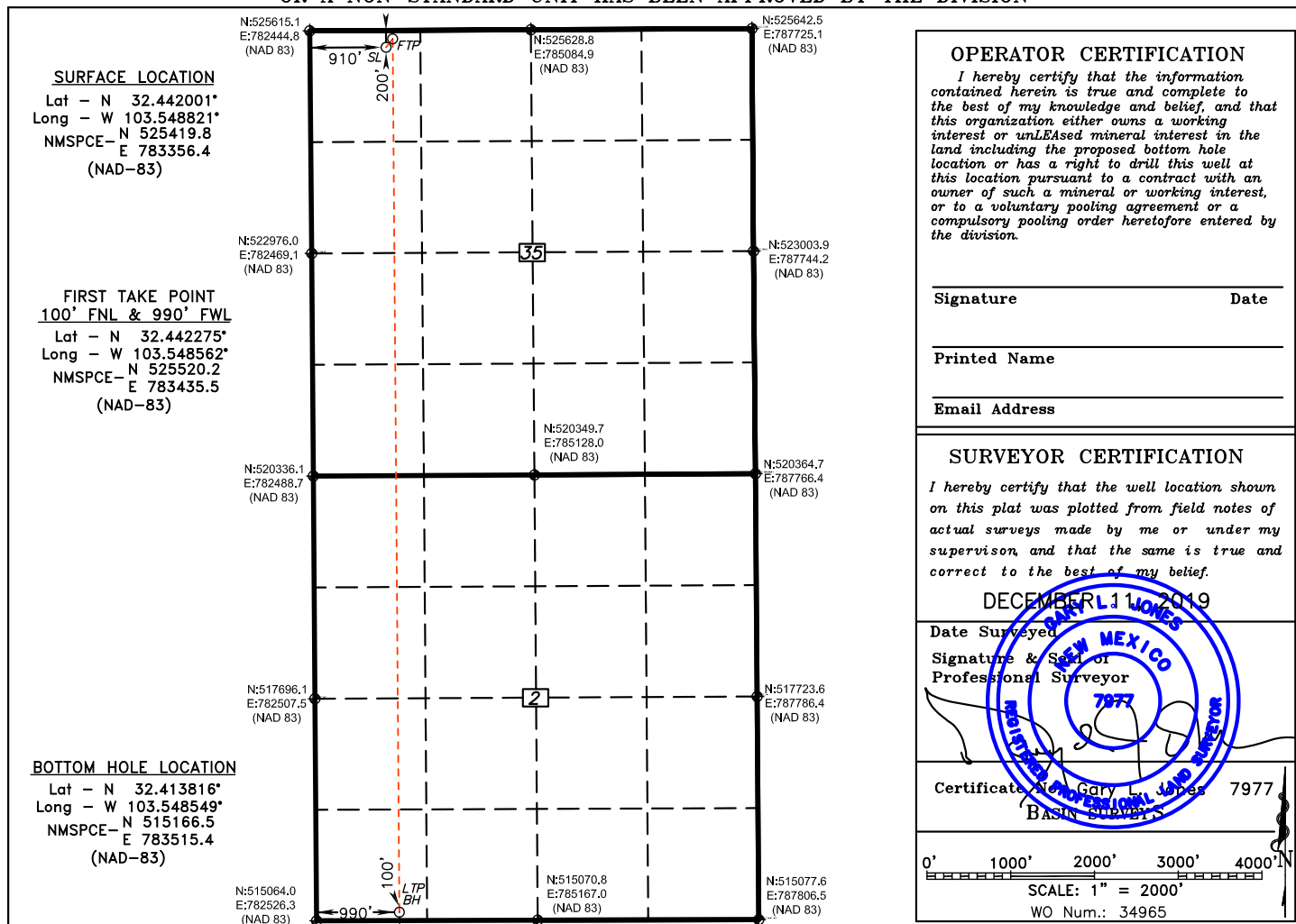
|                         |                                                   |                                                |
|-------------------------|---------------------------------------------------|------------------------------------------------|
| API Number              | Pool Code<br>97929                                | Pool Name<br>WC-025 G-06 S213326D; BONE SPRING |
| Property Code<br>319603 | Property Name<br>MERCHANT STATE UNIT              | Well Number<br>301H                            |
| OGRID No.<br>372417     | Operator Name<br>ADVANCE ENERGY PARTNERS HAT MESA | Elevation<br>3685'                             |

## Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | SOUTH/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| D             | 35      | 21 S     | 33 E  |         | 200           | NORTH            | 910           | WEST           | LEA    |

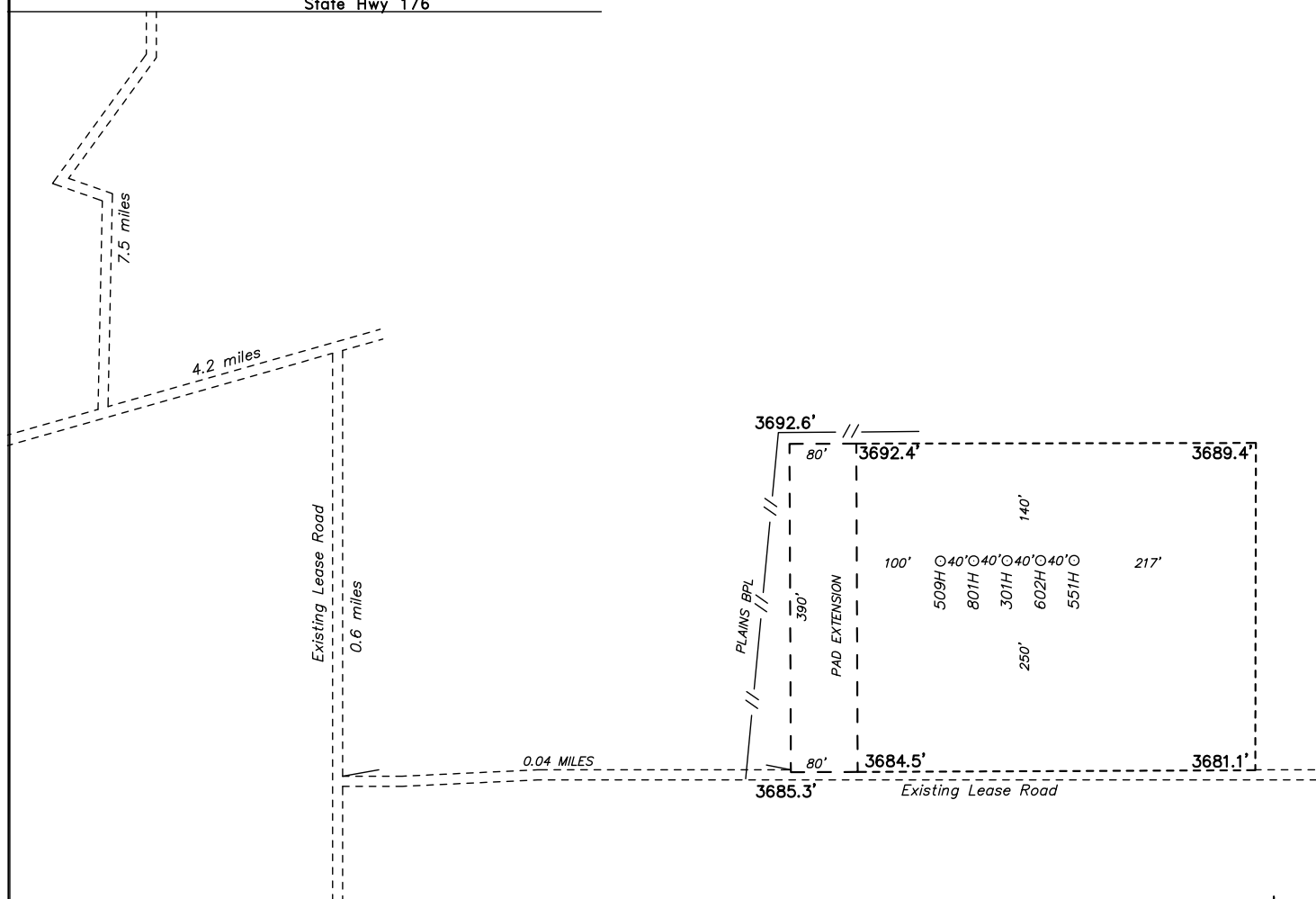
## Bottom Hole Location If Different From Surface

| UL or lot No.   | Section         | Township           | Range     | Lot Idn | Feet from the | SOUTH/South line | Feet from the | East/West line | County |
|-----------------|-----------------|--------------------|-----------|---------|---------------|------------------|---------------|----------------|--------|
| M               | 2               | 22 S               | 33 E      |         | 100           | SOUTH            | 990           | WEST           | LEA    |
| Dedicated Acres | Joint or Infill | Consolidation Code | 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

# SECTION 35, TOWNSHIP 21 SOUTH, RANGE 33 EAST. N.M.P.M., LEA COUNTY, NEW MEXICO.

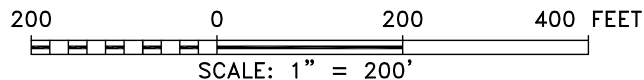
State Hwy 176



ADVANCE ENERGY PARTNERS HAT MESA  
MERCHANT STATE UNIT 301H  
ELEV. - 3685'

Lat - N 32.442001°  
Long - W 103.548821°  
NMSPCE - N 525419.8  
E 783356.4  
(NAD-83)

EUNICE, NM IS ±22 MILES TO THE EAST OF LOCATION.



## ADVANCE ENERGY PARTNERS HAT MESA

REF: MERCHANT STATE UNIT 301H / WELL PAD TOPO

THE MERCHANT STATE UNIT 301H LOCATED 200' FROM  
THE NORTH LINE AND 910' FROM THE WEST LINE OF  
SECTION 35, TOWNSHIP 21 SOUTH, RANGE 33 EAST.

N.M.P.M., LEA COUNTY, NEW MEXICO.

**basin**  
**surveys**  
focused on excellence  
in the oilfield

P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(575) 393-7316 - Office  
(575) 392-2206 - Fax  
basinsurveys.com

W.O. Number: 34965

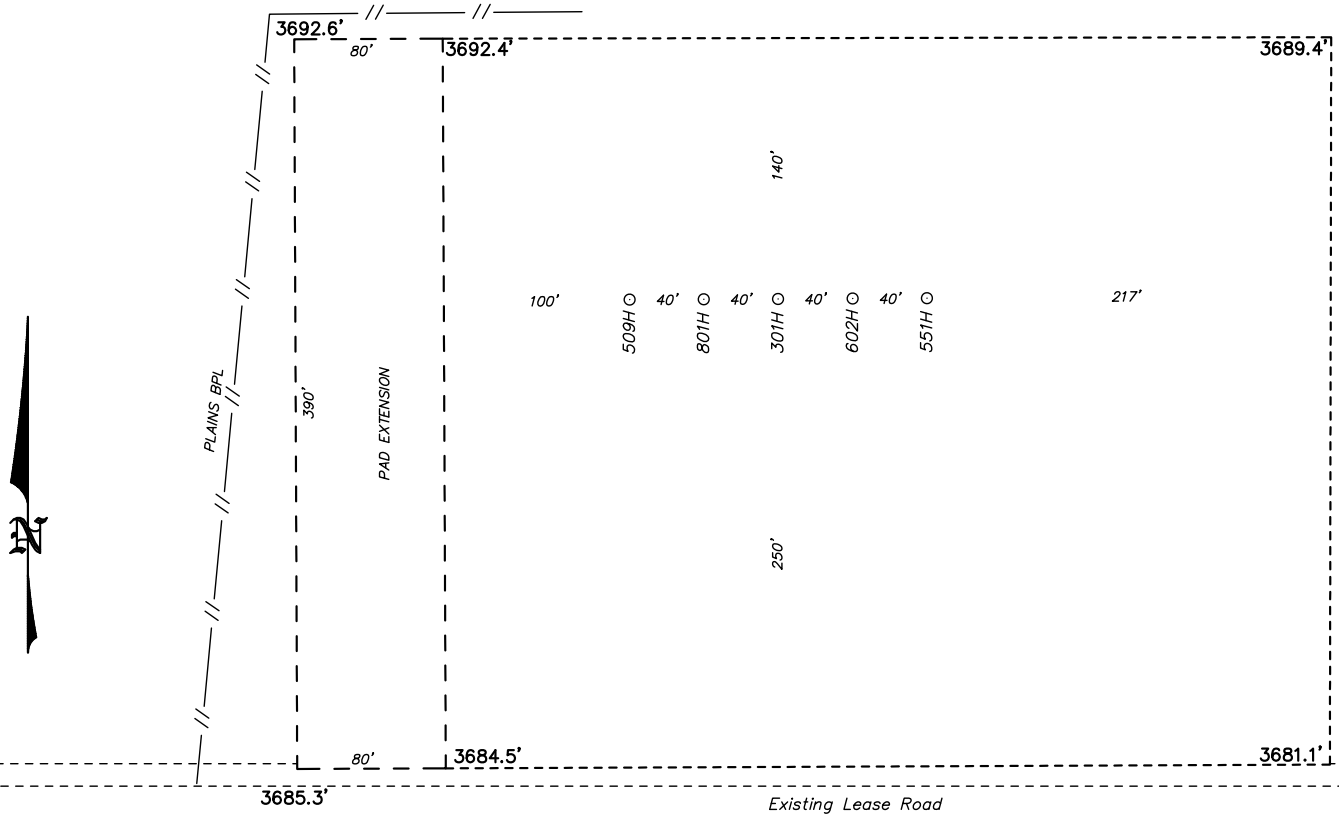
Drawn By: J. GOAD

Date: 12-30-2019

Survey Date: 12-11-2019

Sheet 1 of 1 Sheets

**SECTION 35, TOWNSHIP 21 SOUTH, RANGE 33 EAST. N.M.P.M.,  
LEA COUNTY,  
NEW MEXICO.**



100 0 100 200 FEET

SCALE: 1" = 100'

**ADVANCE ENERGY PARTNERS HAT MESA**

REF: MERCHANT STATE UNIT 301H / WELL PAD TOPO

THE MERCHANT STATE UNIT 301H LOCATED 200' FROM  
THE NORTH LINE AND 910' FROM THE WEST LINE OF  
SECTION 35, TOWNSHIP 21 SOUTH, RANGE 33 EAST.

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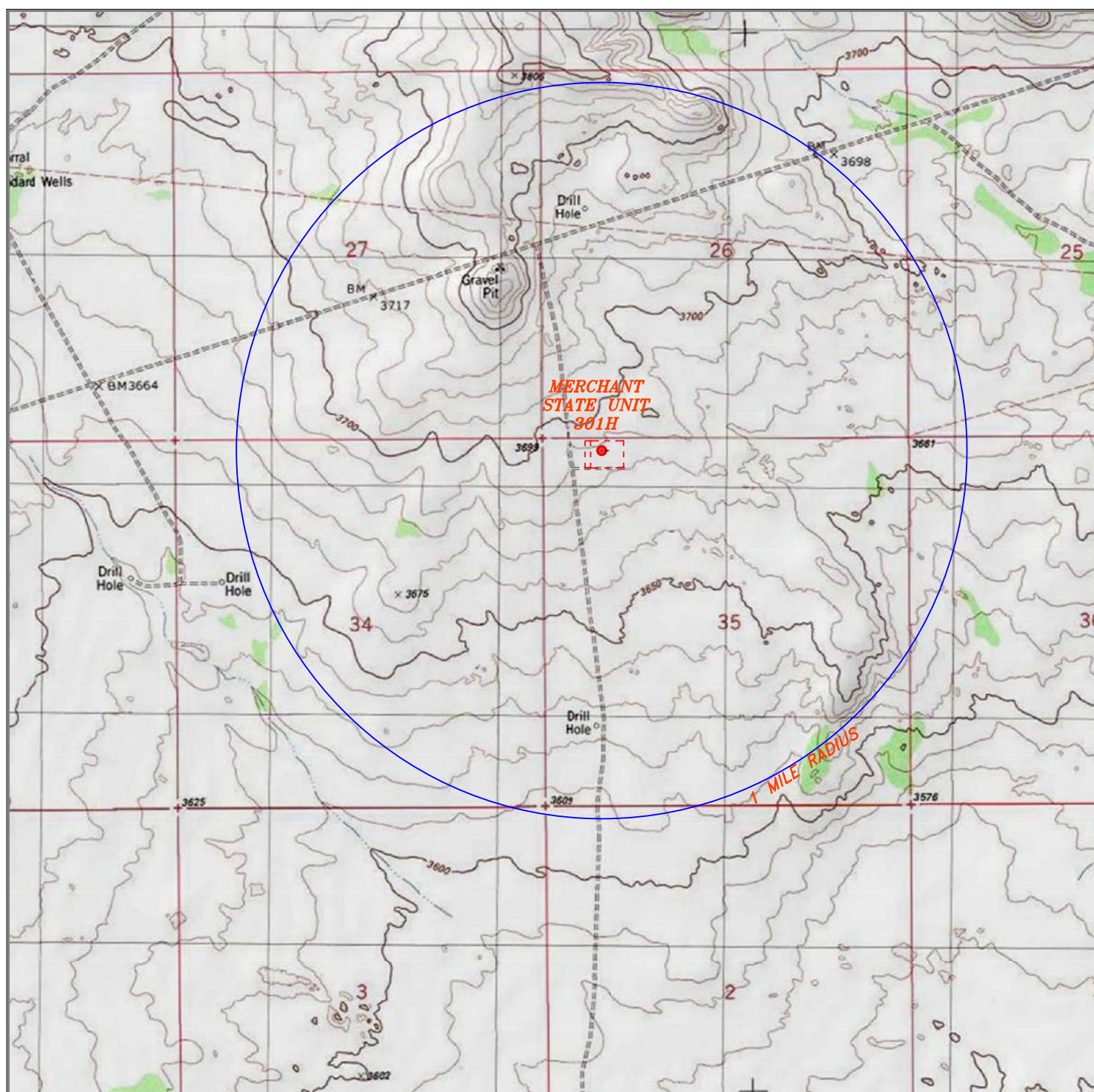
W.O. Number: 34965

Drawn By: J. GOAD

Date: 12-30-2019

Survey Date: 12-11-2019

Sheet 1 of 1 Sheets



### MERCHANT STATE UNIT 301H

Located 200' FNL and 910' FWL  
 Section 35, Township 21 South, Range 33 East,  
 N.M.P.M., Lea County, New Mexico.



P.O. Box 1786  
 1120 N. West County Rd.  
 Hobbs, New Mexico 88241  
 (575) 393-7316 - Office  
 (575) 392-2206 - Fax  
 basinsurveys.com

0' 1000' 2000' 3000' 1500'  
 SCALE: 1" = 2000'

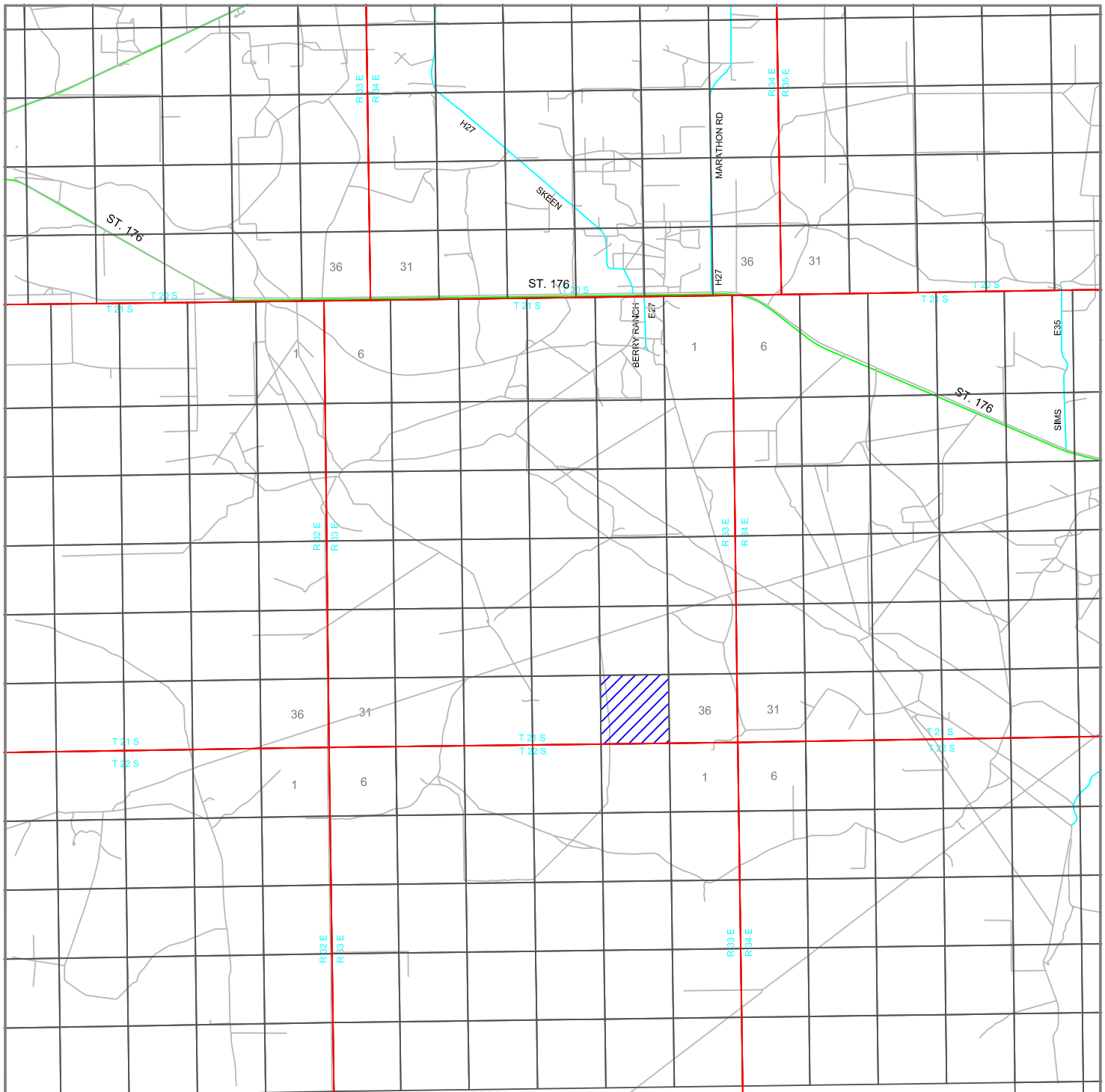
W.O. Number: JG 34965

Survey Date: 12-11-2019

YELLOW TINT - USA LAND  
 BLUE TINT - STATE LAND  
 NATURAL COLOR - FEE LAND



**ADVANCE  
 ENERGY  
 PARTNERS  
 HAT MESA**



## MERCHANT STATE UNIT 301H

Located 200' FNL and 910' FWL  
Section 35, Township 21 South, Range 33 East,  
N.M.P.M., Lea County, New Mexico.



P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(575) 393-7316 - Office  
(575) 392-2206 - Fax  
basinsurveys.com

0 1 MI 2 MI 3 MI 4 MI  
SCALE: 1" = 2 MILES

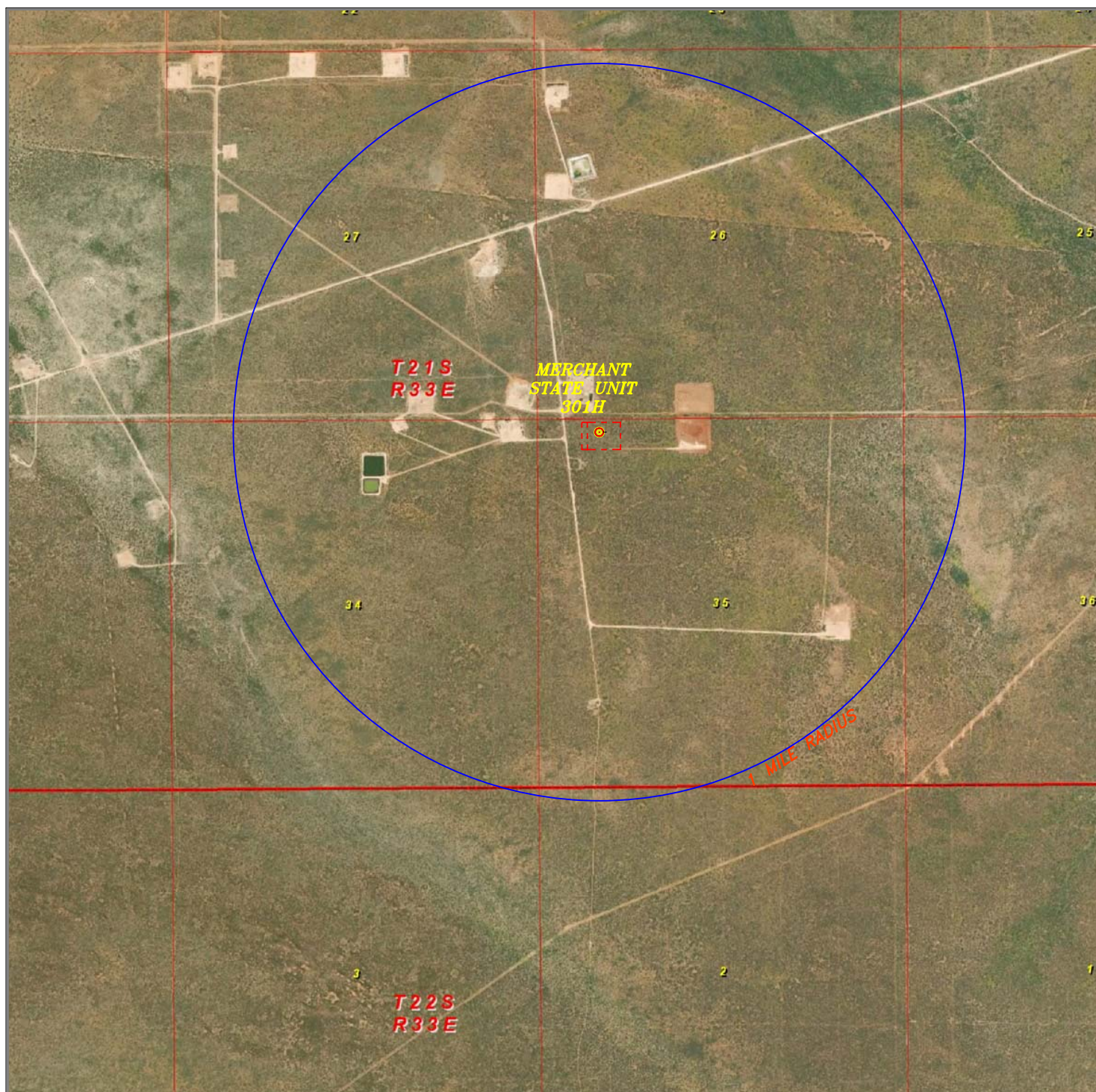
W.O. Number: JG 34965

Survey Date: 12-11-2019

YELLOW TINT - USA LAND  
BLUE TINT - STATE LAND  
NATURAL COLOR - FEE LAND



**ADVANCE  
ENERGY  
PARTNERS  
HAT MESA**



### MERCHANT STATE UNIT 301H

Located 200' FNL and 910' FWL  
 Section 35, Township 21 South, Range 33 East,  
 N.M.P.M., Lea County, New Mexico.



P.O. Box 1786  
 1120 N. West County Rd.  
 Hobbs, New Mexico 88241  
 (575) 393-7316 - Office  
 (575) 392-2206 - Fax  
 basinsurveys.com

0' 1000' 2000' 3000' 1500'  
 SCALE: 1" = 2000'

W.O. Number: JG 34965

Survey Date: 12-11-2019

YELLOW TINT - USA LAND  
 BLUE TINT - STATE LAND  
 NATURAL COLOR - FEE LAND



**ADVANCE  
 ENERGY  
 PARTNERS  
 HAT MESA**

Submit 1 Copy To Appropriate District Office

**District I** -- (575) 393-6161  
1625 N. French Dr., Hobbs, NM 88240  
**District II** -- (575) 748-1283  
811 S. First St., Artesia, NM 88210  
**District III** -- (505) 334-6178  
1000 Rio Brazos Rd., Aztec, NM 87410  
**District IV** -- (505) 476-3460  
1220 S. St. Francis Dr., Santa Fe, NM  
87505

State of New Mexico  
Energy, Minerals and Natural Resources

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

Form C-103  
Revised July 18, 2013

|                                                                                                                                                                                                                                                                                                      |  |  |                                                                                                                                |  |  |                                                                                                     |  |  |                       |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--------------------------------------------------------------------------------------------------------------------------------|--|--|-----------------------------------------------------------------------------------------------------|--|--|-----------------------|--|--|--|--|--|
| District I – (575) 393-6161<br>1625 N. French Dr., Hobbs, NM 88240<br>District II – (575) 748-1283<br>811 S. First St., Artesia, NM 88210<br>District III – (505) 334-6178<br>1000 Rio Brazos Rd., Aztec, NM 87410<br>District IV – (505) 476-3460<br>1220 S. St. Francis Dr., Santa Fe, NM<br>87505 |  |  | Energy, Minerals and Natural Resources<br><b>OIL CONSERVATION DIVISION</b><br>1220 South St. Francis Dr.<br>Santa Fe, NM 87505 |  |  | WELL API NO.<br>30-025-46695                                                                        |  |  | Revised July 15, 2011 |  |  |  |  |  |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br>(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)                                                                                        |  |  |                                                                                                                                |  |  | 5. Indicate Type of Lease<br>STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/> |  |  |                       |  |  |  |  |  |
| 1. Type of Well: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other                                                                                                                                                                                                |  |  |                                                                                                                                |  |  |                                                                                                     |  |  |                       |  |  |  |  |  |
| 2. Name of Operator<br>Advance Energy Partners Hat Mesa                                                                                                                                                                                                                                              |  |  |                                                                                                                                |  |  | 6. State Oil & Gas Lease No.                                                                        |  |  |                       |  |  |  |  |  |
| 3. Address of Operator<br>11490 Westheimer Rd, Houston, TX 77077                                                                                                                                                                                                                                     |  |  |                                                                                                                                |  |  | 7. Lease Name or Unit Agreement Name<br>MERCHANT STATE UNIT                                         |  |  |                       |  |  |  |  |  |
| 4. Well Location<br>Unit Letter <u>D</u> : <u>200</u> feet from the <u>N</u> line and <u>910</u> feet from the <u>W</u> line<br>Section <u>35</u> Township <u>21S</u> Range <u>33E</u> NMPM County LEA                                                                                               |  |  |                                                                                                                                |  |  | 8. Well Number 301H                                                                                 |  |  |                       |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                      |  |  |                                                                                                                                |  |  | 9. OGRID Number<br>372417                                                                           |  |  |                       |  |  |  |  |  |
| 11. Elevation (Show whether DR, RKB, RT, GR, etc.)                                                                                                                                                                                                                                                   |  |  |                                                                                                                                |  |  | 10. Pool name or Wildcat<br>WC-025-G-06 S13326D; BONE SPRING                                        |  |  |                       |  |  |  |  |  |

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

## NOTICE OF INTENTION TO:

|                       |                          |                  |                          |
|-----------------------|--------------------------|------------------|--------------------------|
| PERFORM REMEDIAL WORK | <input type="checkbox"/> | PLUG AND ABANDON | <input type="checkbox"/> |
| TEMPORARILY ABANDON   | <input type="checkbox"/> | CHANGE PLANS     | <input type="checkbox"/> |
| PULL OR ALTER CASING  | <input type="checkbox"/> | MULTIPLE COMPL   | <input type="checkbox"/> |
| DOWNHOLE COMMINGLE    | <input type="checkbox"/> |                  |                          |
| CLOSED-LOOP SYSTEM    | <input type="checkbox"/> |                  |                          |
| OTHER:                |                          |                  | <input type="checkbox"/> |

## SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
 COMMENCE DRILLING OPNS. ☐ P AND A ☐  
 CASING/CEMENT JOB ☐  
 OTHER: ☒

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

- 9/11/20: Pressure test casing to 9,800 psi for 30 minutes.
  - 10/20/20 – 11/12/20: Perforate from 10,445' – 20,203' (2976). Frac with 24,109,120 lbs sand and 28,057,680 gal fluid.
  - 12/8/20 – 12/9/20: Drill all plugs out and clean out to a PBSD of 20,232'.
- Ready to Produce: 01/16/2021

Spud Date: 01/13/2020

|                   |            |
|-------------------|------------|
| Rig Release Date: | 02/11/2020 |
|-------------------|------------|

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE: Debbie Mearns TITLE: Eng. Tech.

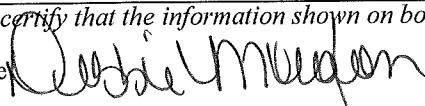
DATE: 3/16/21

PRINT NAME: Debbie Moughon E-mail address: dmoughon@advanceenergypartners.com

PHONE: (713)447-0744

**For State Use Only**

APPROVED BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

|                                                                                                                                                                                                                                                                                                                                                              |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------|-----------------------|----------|---------------|
| Submit To Appropriate District Office<br>Two Copies<br>District I<br>1625 N. French Dr., Hobbs, NM 88240<br>District II<br>811 S. First St., Artesia, NM 88210<br>District III<br>1000 Rio Brazos Rd., Aztec, NM 87410<br>District IV<br>1220 S. St. Francis Dr., Santa Fe, NM 87505                                                                         |                       | State of New Mexico<br>Energy, Minerals and Natural Resources<br><br>Oil Conservation Division<br>1220 South St. Francis Dr.<br>Santa Fe, NM 87505 |                        |                                                 | Form C-105<br>Revised April 3, 2017                                                                        |                                                              |                 |                       |          |               |
|                                                                                                                                                                                                                                                                                                                                                              |                       | 1. WELL API NO.                                                                                                                                    |                        |                                                 | 30-025-46695                                                                                               |                                                              |                 |                       |          |               |
|                                                                                                                                                                                                                                                                                                                                                              |                       | 2. Type of Lease                                                                                                                                   |                        |                                                 | <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/> FED/INDIAN |                                                              |                 |                       |          |               |
|                                                                                                                                                                                                                                                                                                                                                              |                       | 3. State Oil & Gas Lease No.                                                                                                                       |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| <b>WELL COMPLETION OR RECOMPLETION REPORT AND LOG</b>                                                                                                                                                                                                                                                                                                        |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| 4. Reason for filing:                                                                                                                                                                                                                                                                                                                                        |                       |                                                                                                                                                    |                        | 5. Lease Name or Unit Agreement Name            |                                                                                                            |                                                              |                 |                       |          |               |
| <input checked="" type="checkbox"/> <b>COMPLETION REPORT</b> (Fill in boxes #1 through #31 for State and Fee wells only)<br><br><input type="checkbox"/> <b>C-144 CLOSURE ATTACHMENT</b> (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC) |                       |                                                                                                                                                    |                        | Merchant State Unit<br><br>6. Well Number: 301H |                                                                                                            |                                                              |                 |                       |          |               |
| 7. Type of Completion:                                                                                                                                                                                                                                                                                                                                       |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| <input checked="" type="checkbox"/> NEW WELL <input type="checkbox"/> WORKOVER <input type="checkbox"/> DEEPENING <input type="checkbox"/> PLUGBACK <input type="checkbox"/> DIFFERENT RESERVOIR <input type="checkbox"/> OTHER                                                                                                                              |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| 8. Name of Operator                                                                                                                                                                                                                                                                                                                                          |                       |                                                                                                                                                    |                        | 9. OGRID                                        |                                                                                                            |                                                              |                 |                       |          |               |
| Advance Energy Partners Hat Mesa, LLC                                                                                                                                                                                                                                                                                                                        |                       |                                                                                                                                                    |                        | 372417                                          |                                                                                                            |                                                              |                 |                       |          |               |
| 10. Address of Operator                                                                                                                                                                                                                                                                                                                                      |                       |                                                                                                                                                    |                        | 11. Pool name or Wildcat                        |                                                                                                            |                                                              |                 |                       |          |               |
| 11490 Westheimer RD, Suite 950                                                                                                                                                                                                                                                                                                                               |                       |                                                                                                                                                    |                        | WC-025 G-06 S213326D; BONE SPRING               |                                                                                                            |                                                              |                 |                       |          |               |
| Houston, TX 77077                                                                                                                                                                                                                                                                                                                                            |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| 12. Location                                                                                                                                                                                                                                                                                                                                                 | Unit Ltr              | Section                                                                                                                                            | Township               | Range                                           | Lot                                                                                                        | Feet from the                                                | N/S Line        | Feet from the         | E/W Line | County        |
| Surface:                                                                                                                                                                                                                                                                                                                                                     | D                     | 35                                                                                                                                                 | 21S                    | 33E                                             |                                                                                                            | 200                                                          | N               | 1654                  | W        | Lea           |
| BH:                                                                                                                                                                                                                                                                                                                                                          | M                     | 2                                                                                                                                                  | 22S                    | 33E                                             |                                                                                                            | 25                                                           | S               | 975                   | W        | Lea           |
| 13. Date Spudded                                                                                                                                                                                                                                                                                                                                             | 14. Date T.D. Reached | 15. Date Rig Released                                                                                                                              |                        | 16. Date Completed (Ready to Produce)           |                                                                                                            | 17. Elevations (DF and RKB, RT, GR, etc.)                    |                 |                       |          |               |
| 01/13/20                                                                                                                                                                                                                                                                                                                                                     | 02/11/20              | 02/11/20                                                                                                                                           |                        | 01/16/2021                                      |                                                                                                            | 3685'                                                        |                 |                       |          |               |
| 18. Total Measured Depth of Well                                                                                                                                                                                                                                                                                                                             |                       | 19. Plug Back Measured Depth                                                                                                                       |                        | 20. Was Directional Survey Made?                |                                                                                                            | 21. Type Electric and Other Logs Run                         |                 |                       |          |               |
| 20,306                                                                                                                                                                                                                                                                                                                                                       |                       | 20,232                                                                                                                                             |                        | YES                                             |                                                                                                            | Gamma Ray                                                    |                 |                       |          |               |
| 22. Producing Interval(s), of this completion - Top, Bottom, Name                                                                                                                                                                                                                                                                                            |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| 10,445-20,203 Bone Springs                                                                                                                                                                                                                                                                                                                                   |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| <b>CASING RECORD (Report all strings set in well)</b>                                                                                                                                                                                                                                                                                                        |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| 23. CASING SIZE                                                                                                                                                                                                                                                                                                                                              |                       | WEIGHT LB./FT.                                                                                                                                     |                        | DEPTH SET                                       |                                                                                                            | HOLE SIZE                                                    |                 | CEMENTING RECORD      |          | AMOUNT PULLED |
| 13.375"                                                                                                                                                                                                                                                                                                                                                      |                       | 54.4#                                                                                                                                              |                        | 1706                                            |                                                                                                            | 17.5"                                                        |                 | 820                   |          |               |
| 9.625"                                                                                                                                                                                                                                                                                                                                                       |                       | 40#                                                                                                                                                |                        | 5348/3852                                       |                                                                                                            | 12.25"                                                       |                 | 1330                  |          |               |
| 5.5"                                                                                                                                                                                                                                                                                                                                                         |                       | 20#                                                                                                                                                |                        | 20,306                                          |                                                                                                            | 7.875"                                                       |                 | 2935                  |          |               |
|                                                                                                                                                                                                                                                                                                                                                              |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
|                                                                                                                                                                                                                                                                                                                                                              |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| <b>24. LINER RECORD</b>                                                                                                                                                                                                                                                                                                                                      |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| SIZE                                                                                                                                                                                                                                                                                                                                                         |                       | TOP                                                                                                                                                |                        | BOTTOM                                          |                                                                                                            | SACKS CEMENT                                                 |                 | SCREEN                |          |               |
|                                                                                                                                                                                                                                                                                                                                                              |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
|                                                                                                                                                                                                                                                                                                                                                              |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| 26. Perforation record (interval, size, and number)                                                                                                                                                                                                                                                                                                          |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            | 27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.              |                 |                       |          |               |
| 10,445-20,203' -2976 holes                                                                                                                                                                                                                                                                                                                                   |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            | DEPTH INTERVAL    AMOUNT AND KIND MATERIAL USED              |                 |                       |          |               |
|                                                                                                                                                                                                                                                                                                                                                              |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            | 10,445-20,203'    24,109,120 lbs sand, 28,057,680 bbls water |                 |                       |          |               |
|                                                                                                                                                                                                                                                                                                                                                              |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
|                                                                                                                                                                                                                                                                                                                                                              |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| <b>28. PRODUCTION</b>                                                                                                                                                                                                                                                                                                                                        |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| Date First Production                                                                                                                                                                                                                                                                                                                                        |                       | Production Method (Flowing, gas lift, pumping - Size and type pump)                                                                                |                        |                                                 |                                                                                                            | Well Status (Prod. or Shut-in)                               |                 |                       |          |               |
| 01/16/2021                                                                                                                                                                                                                                                                                                                                                   |                       | Flowing                                                                                                                                            |                        |                                                 |                                                                                                            | Prod                                                         |                 |                       |          |               |
| Date of Test                                                                                                                                                                                                                                                                                                                                                 | Hours Tested          | Choke Size                                                                                                                                         | Prod'n For Test Period | Oil - Bbl                                       | Gas - MCF                                                                                                  | Water - Bbl.                                                 | Gas - Oil Ratio |                       |          |               |
| 02/01/2021                                                                                                                                                                                                                                                                                                                                                   | 24 Hrs                | 64                                                                                                                                                 |                        | 716                                             | 854                                                                                                        | 4089                                                         | 6832            |                       |          |               |
| Flow Tubing Press.                                                                                                                                                                                                                                                                                                                                           | Casing Pressure       | Calculated 24-Hour Rate                                                                                                                            | Oil - Bbl.             | Gas - MCF                                       | Water - Bbl.                                                                                               | Oil Gravity - API - (Corr.)                                  |                 |                       |          |               |
| 1000                                                                                                                                                                                                                                                                                                                                                         | 772                   |                                                                                                                                                    | 716                    | 854                                             | 4089                                                                                                       | 41.7                                                         |                 |                       |          |               |
| 29. Disposition of Gas (Sold, used for fuel, vented, etc.)                                                                                                                                                                                                                                                                                                   |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 | 30. Test Witnessed By |          |               |
| Sold                                                                                                                                                                                                                                                                                                                                                         |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 | Baron Chandler        |          |               |
| 31. List Attachments                                                                                                                                                                                                                                                                                                                                         |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| 32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.                                                                                                                                                                                                                                                           |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| 33. Rig Release Date: 02/24/20                                                                                                                                                                                                                                                                                                                               |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| 34. If an on-site burial was used at the well, report the exact location of the on-site burial:                                                                                                                                                                                                                                                              |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| Latitude                                                                                                                                                                                                                                                                                                                                                     |                       |                                                                                                                                                    |                        |                                                 | Longitude    NAD83                                                                                         |                                                              |                 |                       |          |               |
| I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief                                                                                                                                                                                                                           |                       |                                                                                                                                                    |                        |                                                 |                                                                                                            |                                                              |                 |                       |          |               |
| Signature:                                                                                                                                                                                                                                                                |                       |                                                                                                                                                    |                        |                                                 | Date: 03/16/21                                                                                             |                                                              |                 |                       |          |               |
| Revised to NMAC by 12/13/2021 3:05:09 PM                                                                                                                                                                                                                                                                                                                     |                       |                                                                                                                                                    |                        |                                                 | Title: Eng Tech.    E-mail Address: dmoughon@advanceenergypartners.com                                     |                                                              |                 |                       |          |               |

# INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

## INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

| Southeastern New Mexico |                  | Northwestern New Mexico |                  |
|-------------------------|------------------|-------------------------|------------------|
| T. Anhy                 | T. Canyon        | T. Ojo Alamo            | T. Penn A"       |
| T. Salt                 | T. Strawn        | T. Kirtland             | T. Penn. "B"     |
| B. Salt                 | T. Atoka         | T. Fruitland            | T. Penn. "C"     |
| T. Yates                | T. Miss          | T. Pictured Cliffs      | T. Penn. "D"     |
| T. 7 Rivers             | T. Devonian      | T. Cliff House          | T. Leadville     |
| T. Queen                | T. Silurian      | T. Menefee              | T. Madison       |
| T. Grayburg             | T. Montoya       | T. Point Lookout        | T. Elbert        |
| T. San Andres           | T. Simpson       | T. Mancos               | T. McCracken     |
| T. Glorieta             | T. McKee         | T. Gallup               | T. Ignacio Otzte |
| T. Paddock              | T. Ellenburger   | Base Greenhorn          | T. Granite       |
| T. Blinebry             | T. Gr. Wash      | T. Dakota               |                  |
| T. Tubb                 | T. Delaware Sand | T. Morrison             |                  |
| T. Drinkard             | T. Bone Springs  | T. Todilto              |                  |
| T. Abo                  | T.               | T. Entrada              |                  |
| T. Wolfcamp             | T.               | T. Wingate              |                  |
| T. Penn                 | T.               | T. Chinle               |                  |
| T. Cisco (Bough C)      | T.               | T. Permian              |                  |

## OIL OR GAS SANDS OR ZONES

No. 1, from.....to.....  
No. 2, from.....to.....

No. 3, from.....to.....  
No. 4, from.....to.....

## IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....  
No. 2, from.....to.....feet.....  
No. 3, from.....to.....feet.....

## LITHOLOGY RECORD (Attach additional sheet if necessary)

| From | To | Thickness<br>In Feet | Lithology | From | To | Thickness<br>In Feet | Lithology |
|------|----|----------------------|-----------|------|----|----------------------|-----------|
|------|----|----------------------|-----------|------|----|----------------------|-----------|

**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 66607

ACKNOWLEDGMENTS

|                                                                                                          |                                                    |
|----------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Operator:<br>ADVANCE ENERGY PARTNERS HAT MESA, LLC<br>11490 Westheimer Rd., Ste 950<br>Houston, TX 77077 | OGRID:<br>372417                                   |
|                                                                                                          | Action Number:<br>66607                            |
|                                                                                                          | 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. |

**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 66607

CONDITIONS

|                                                                                                          |                                                    |
|----------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Operator:<br>ADVANCE ENERGY PARTNERS HAT MESA, LLC<br>11490 Westheimer Rd., Ste 950<br>Houston, TX 77077 | OGRID:<br>372417                                   |
|                                                                                                          | Action Number:<br>66607                            |
|                                                                                                          | Action Type:<br>[C-104] Completion Packet (C-104C) |

CONDITIONS

| Created By | Condition | Condition Date |
|------------|-----------|----------------|
| plmartinez | None      | 1/14/2022      |