

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED  
OMB NO. 1004-0135  
Expires: July 31, 2010**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

|                                                                                                                                                            |  |                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------|
| 1. Type of Well<br><input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other                           |  | 8. Well Name and No.<br>NFE FEDERAL COM 47H                     |
| 2. Name of Operator<br>APACHE CORPORATION                                                                                                                  |  | 9. API Well No.<br>30-015-43507                                 |
| 3a. Address<br>303 VETERANS AIRPARK LANE SUITE 3000<br>MIDLAND, TX 79705                                                                                   |  | 10. Field and Pool, or Exploratory<br>CEDAR LAKE; GLORIETA-YESO |
| 3b. Phone No. (include area code)<br>Ph: 432-818-1167                                                                                                      |  |                                                                 |
| 4. Location of Well (Footage, Sec., T., R., M., or Survey Description)<br>Sec 5 T17S R31E Mer NMP SWNW 2535FNL 715FWL<br>32.863709 N Lat, 103.897677 W Lon |  | 11. County or Parish, and State<br>EDDY COUNTY, NM              |

**12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

| TYPE OF SUBMISSION                                   | TYPE OF ACTION                                |                                           |                                                    |                                           |
|------------------------------------------------------|-----------------------------------------------|-------------------------------------------|----------------------------------------------------|-------------------------------------------|
| <input checked="" type="checkbox"/> Notice of Intent | <input type="checkbox"/> Acidize              | <input type="checkbox"/> Deepen           | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off   |
| <input type="checkbox"/> Subsequent Report           | <input type="checkbox"/> Alter Casing         | <input type="checkbox"/> Fracture Treat   | <input type="checkbox"/> Reclamation               | <input type="checkbox"/> Well Integrity   |
| <input type="checkbox"/> Final Abandonment Notice    | <input type="checkbox"/> Casing Repair        | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete                | <input checked="" type="checkbox"/> Other |
|                                                      | <input type="checkbox"/> Change Plans         | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon       | Change to Original A                      |
|                                                      | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back        | <input type="checkbox"/> Water Disposal            | PD                                        |

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

BLM-CO-1463 NATIONWIDE; NMB000736

FOR NFE FEDERAL COM 47H(30-015-43507), APACHE REQUEST TO CHG CSG/CMT PROGRAM:

OLD TVD: 5007' MD: 8992'

NEW TVD: 4980' MD: 9072' LP: 4925' TVD

OLD PROD CSG STRING:

17-1/2": 0-400'

12-1/4": 0-3500'

8-1/2": 0-4452'

8-1/2": 4452'-5192'

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

Accepted for record

OCD NMOCD 1/6/16

**NM OIL CONSERVATION**  
ARTESIA DISTRICT

JAN 06 2016

RECEIVED

|                                                                                                                                                                                                                                                                    |                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 14. I hereby certify that the foregoing is true and correct.<br>Electronic Submission #327607 verified by the BLM Well Information System<br>For APACHE CORPORATION, sent to the Carlsbad<br>Committed to AFMSS for processing by KENNETH RENNICK on 01/04/2016 () |                          |
| Name (Printed/Typed) SORINA FLORES                                                                                                                                                                                                                                 | Title SUBMITTING CONTACT |
| Signature (Electronic Submission)                                                                                                                                                                                                                                  | Date 01/04/2016          |

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

|                                                                                                                                                                                                                                                           |              |                                                                                                                                       |            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------|------------|
| Approved By _____                                                                                                                                                                                                                                         | Title _____  | <b>APPROVED</b><br><b>PETROLEUM ENGINEER</b><br>JAN - 4 2016<br>Kenneth Rennick<br>BUREAU OF LAND MANAGEMENT<br>CARLSBAD FIELD OFFICE | Date _____ |
| Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. | Office _____ |                                                                                                                                       |            |

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

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

**Additional data for EC transaction #327607 that would not fit on the form**

**32. Additional remarks, continued**

8-1/2": 5192'-8992'

**NEW PROD CSG STRING:**

17-1/2": 0-460'

12-1/4": 0-3500'

8-1/2": 0-4447'

8-1/2": 4447'-5190'

8-1/2": 5190'-9072'

SEE COA : EXTREMELY LOW CEMENT PROPOSED FOR  
BEHIND PRODUCTION CASING

**BOP OLD:**

Hole: 12-1/4" Size: 13-5/8" WP: 3M Annular Test to: 2M

Hole: 9-5/8" Size: 13-5/8" WP: 3M Annular, Blind, Pipe Test to: 2M

**BOP NEW:**

Hole: 12-1/4" Size: 13-5/8" WP: 3M Annular Test to: 2M

Hole: 8-1/2" Size: 11" WP: 3M Annular, Blind, Pipe Test to: 2M

**MUD PROGRAM OLD:**

Int Shoe -TD: Brine Wgt: 9.5-10.2 Visc: 28-29 Wtr Loss: N/C

**MUD PROGRAM NEW:**

Int Shoe -TD: Brine Wgt: 8.6-10.2 Visc: 28-29 Wtr Loss: N/C

**LOGGING:**

Mud Log: Interval: 4417'-TD

**DRLG CONDITIONS:**

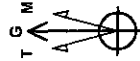
BHP @ deepest TVD: 2192psi

**\*\*New directional plan attached.**



EXPLORING WHAT'S POSSIBLE

Project: Eddy County, NM (NAD27 NME)  
Site: NFE Federal COM  
Well: #47H  
Wellbore: OH  
Design: Plan #4 12-31-15  
Rig: Capstar 119



Aligns to Grid North  
True North: -0.24°  
Magnetic North: 7.36°  
Magnetic Field  
Strength: 48540.6 nT  
Dip Angle: 60.80°  
Date: 12/31/2015  
Model: HDGM

# PHOENIX

TECHNOLOGY SERVICES

## WELL DETAILS

|  | N/S  | E/W  | Nothing   | Ground Level | Latitude           | Longitude           |
|--|------|------|-----------|--------------|--------------------|---------------------|
|  | 0.00 | 0.00 | 878264.70 | 633770.20    | 32° 51' 49.35308 N | 103° 53' 51.63864 W |

## SECTION DETAILS

| Sec | MD      | Inc   | Adj   | TVD     | N/S    | E/W     | Usg   | Face  | Used    | Target | Annotation                              |
|-----|---------|-------|-------|---------|--------|---------|-------|-------|---------|--------|-----------------------------------------|
| 1   | 0.00    | 0.00  | 0.00  | 0.00    | 0.00   | 0.00    | 0.00  | 0.00  | 0.00    | 0.00   | KOP Begin 12.00/100' Build              |
| 2   | 4447.58 | 0.00  | 0.00  | 4447.58 | 0.00   | 0.00    | 0.00  | 0.00  | 0.00    | 0.00   | LP Hold 69.61° Azm                      |
| 3   | 5190.93 | 86.19 | 58.63 | 4525.00 | 245.04 | 401.91  | 12.00 | 58.63 | 429.88  |        | LP Hold 69.19° Inc Begin 3.00/100' Turn |
| 4   | 6223.28 | 96.19 | 89.61 | 4939.92 | 524.11 | 1382.78 | 3.00  | 90.22 | 1438.29 |        | Hold 69.61° Azm                         |
| 5   | 9072.73 | 86.19 | 89.61 | 4980.00 | 543.76 | 4331.80 | 0.00  | 0.00  | 4295.88 |        | BHL-NFE Fed #47H v3<br>TD at 9072.73    |

## DESIGN TARGET DETAILS

| Name                      | TVD     | N/S    | E/W     | Nothing   | Setting   | Latitude           | Longitude          | Shape |
|---------------------------|---------|--------|---------|-----------|-----------|--------------------|--------------------|-------|
| BHL-NFE Fed #47H v3       | 4980.00 | 543.76 | 4331.80 | 678748.40 | 638022.20 | 32° 51' 54.55515 N | 103° 53' 53.9701 W | Point |
| - plan this target center |         |        |         |           |           |                    |                    |       |

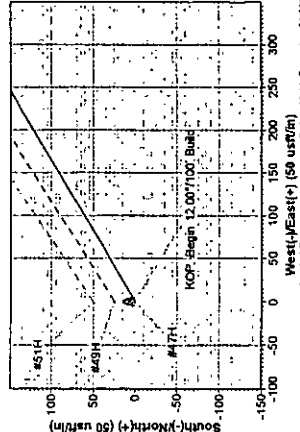
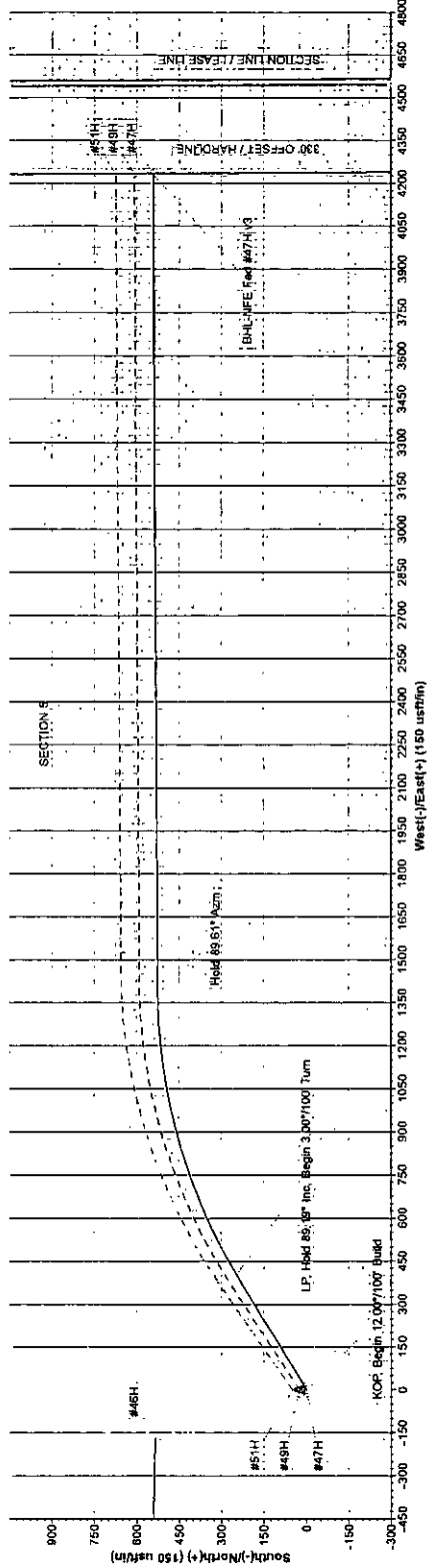
## FORMATION TOP DETAILS

| TVD Path | Formation       | Depth   | Dip  |
|----------|-----------------|---------|------|
| 552.00   | TS&H            | 552.00  | 0.81 |
| 1175.00  | TS&H            | 1175.00 | 0.81 |
| 1572.00  | Yates           | 1572.00 | 0.81 |
| 1655.00  | Seven Rivers    | 1655.00 | 0.81 |
| 2485.00  | Queen           | 2485.00 | 0.81 |
| 2865.00  | Grayella        | 2865.00 | 0.81 |
| 3200.00  | San Andrea      | 3200.00 | 0.81 |
| 4658.62  | Gravelita       | 4658.62 | 0.81 |
| 4741.30  | Yates (Paddock) | 4741.30 | 0.81 |

## LEGEND

- #1H, OH, Plan #1 06-11-15 V0
- #45H, OH, Plan #1 06-11-15 V0
- #46H, OH, Job #1514748, Surveys (Capstar 119) V0
- #49H, OH, Plan #3 05-08-15 V0
- #51H, OH, Plan #3 11-11-15 V0
- Plan #4 12-31-15

Map System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Zone Name: New Mexico East 3001  
Local Origin: Well #47H, Grid North  
Latitude: 32° 51' 49.35308 N  
Longitude: 103° 53' 51.63864 W  
Grid East: 633770.20  
Grid North: 678204.70  
Scale Factor: 1.000  
Geomagnetic Model: HDGM  
Sample Date: 12/31/15  
Magnetic Declination: 7.36°  
Dip Angle from Horizontal: 60.80°  
Magnetic Field Strength: 48541  
To convert a Magnetic Direction to a Grid Direction, Add 7.36°  
To convert a Magnetic Direction to a True Direction, Add 7.90° East  
To convert a True Direction to a Grid Direction, Subtract 0.24°





# **Apache Corporation**

**Eddy County, NM (NAD27 NME)**

**NFE Federal COM**

**#47H**

**OH**

**Plan: Plan #4 12-31-15**

## **Standard Planning Report**

**31 December, 2015**



|                  |                             |                                     |                                |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| <b>Database:</b> | Compass 5000 GCR            | <b>Local Co-ordinate Reference:</b> | Well #47H                      |
| <b>Company:</b>  | Apache Corporation          | <b>TVD Reference:</b>               | KB @ 3805.00usft (Capstar 119) |
| <b>Project:</b>  | Eddy County, NM (NAD27 NME) | <b>MD Reference:</b>                | KB @ 3805.00usft (Capstar 119) |
| <b>Site:</b>     | NFE Federal COM             | <b>North Reference:</b>             | Grid                           |
| <b>Well:</b>     | #47H                        | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Wellbore:</b> | OH                          |                                     |                                |
| <b>Design:</b>   | Plan #4 12-31-15            |                                     |                                |

|                    |                                      |                      |                |
|--------------------|--------------------------------------|----------------------|----------------|
| <b>Project:</b>    | Eddy County, NM (NAD27 NME)          |                      |                |
| <b>Map System:</b> | US State Plane 1927 (Exact solution) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)              |                      |                |
| <b>Map Zone:</b>   | New Mexico East 3001                 |                      |                |

|                              |                 |                          |                     |
|------------------------------|-----------------|--------------------------|---------------------|
| <b>Site:</b>                 | NFE Federal COM |                          |                     |
| <b>Site Position:</b>        |                 | <b>Northing:</b>         | 673,264.70 usft     |
| <b>From:</b>                 | Map             | <b>Easting:</b>          | 633,303.50 usft     |
| <b>Position Uncertainty:</b> | 0.00 usft       | <b>Slot Radius:</b>      | 13-3/16 "           |
|                              |                 | <b>Latitude:</b>         | 32° 51' 0.49036 N   |
|                              |                 | <b>Longitude:</b>        | 103° 53' 57.34966 W |
|                              |                 | <b>Grid Convergence:</b> | 0.24 °              |

|                             |           |                            |                                  |
|-----------------------------|-----------|----------------------------|----------------------------------|
| <b>Well:</b>                | #47H      |                            |                                  |
| <b>Well Position</b>        | +N/-S     | 4,940.00 usft              | <b>Northing:</b> 678,204.70 usft |
|                             | +E/-W     | 466.80 usft                | <b>Easting:</b> 633,770.30 usft  |
| <b>Position Uncertainty</b> | 0.00 usft | <b>Wellhead Elevation:</b> | 3,794.00 usft                    |
|                             |           | <b>Latitude:</b>           | 32° 51' 49.35308 N               |
|                             |           | <b>Longitude:</b>          | 103° 53' 51.63884 W              |
|                             |           | <b>Ground Level:</b>       |                                  |

|                  |    |  |  |
|------------------|----|--|--|
| <b>Wellbore:</b> | OH |  |  |
|------------------|----|--|--|

|                   |                    |                     |                     |                   |                        |
|-------------------|--------------------|---------------------|---------------------|-------------------|------------------------|
| <b>Magnetics:</b> | <b>Model Name:</b> | <b>Sample Date:</b> | <b>Declination:</b> | <b>Dip Angle:</b> | <b>Field Strength:</b> |
|                   | HDGM               | 12/31/2015          | 7.60                | 60.80             | 48.541                 |
|                   |                    |                     | (°)                 | (°)               | (nT)                   |

|                |                  |  |  |
|----------------|------------------|--|--|
| <b>Design:</b> | Plan #4 12-31-15 |  |  |
|----------------|------------------|--|--|

|                     |               |      |                           |
|---------------------|---------------|------|---------------------------|
| <b>Audit Notes:</b> |               |      |                           |
| <b>Version:</b>     | <b>Phase:</b> | PLAN | <b>Tie On Depth:</b> 0.00 |

|                          |                         |              |              |                  |
|--------------------------|-------------------------|--------------|--------------|------------------|
| <b>Vertical Section:</b> | <b>Depth From (TVD)</b> | <b>+N/-S</b> | <b>+E/-W</b> | <b>Direction</b> |
|                          | (usft)                  | (usft)       | (usft)       | (°)              |
|                          | 0.00                    | 0.00         | 0.00         | 82.68            |

| Plan Sections |             |         |          |        |          |             |             |             |       |                  |
|---------------|-------------|---------|----------|--------|----------|-------------|-------------|-------------|-------|------------------|
| Measured      | Inclination | Azimuth | Vertical | +N/-S  | +E/-W    | Dogleg      | Build       | Turn        | TFO   | Target           |
| Depth         | (°)         | (°)     | Depth    | (usft) | (usft)   | Rate        | Rate        | Rate        | (°)   |                  |
| (usft)        |             |         | (usft)   |        |          | (°/100usft) | (°/100usft) | (°/100usft) |       |                  |
| 0.00          | 0.00        | 0.00    | 0.00     | 0.00   | 0.00     | 0.00        | 0.00        | 0.00        | 0.00  |                  |
| 4,447.58      | 0.00        | 0.00    | 4,447.58 | 0.00   | 0.00     | 0.00        | 0.00        | 0.00        | 0.00  |                  |
| 5,190.83      | 89.19       | 58.63   | 4,925.00 | 245.04 | 401.91   | 12.00       | 12.00       | 0.00        | 58.63 |                  |
| 6,223.26      | 89.19       | 89.61   | 4,939.92 | 524.11 | 1,382.78 | 3.00        | 0.00        | 3.00        | 90.22 |                  |
| 9,072.73      | 89.19       | 89.61   | 4,980.00 | 543.70 | 4,231.90 | 0.00        | 0.00        | 0.00        | 0.00  | BHL-NFE Fed #47H |

|                  |                             |                                     |                                |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| <b>Database:</b> | Compass 5000 GCR            | <b>Local Co-ordinate Reference:</b> | Well #47H                      |
| <b>Company:</b>  | Apache Corporation          | <b>TVD Reference:</b>               | KB @ 3805.00usft (Capstar 119) |
| <b>Project:</b>  | Eddy County, NM (NAD27 NME) | <b>MD Reference:</b>                | KB @ 3805.00usft (Capstar 119) |
| <b>Site:</b>     | NFE Federal COM             | <b>North Reference:</b>             | Grid                           |
| <b>Well:</b>     | #47H                        | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Wellbore:</b> | OH                          |                                     |                                |
| <b>Design:</b>   | Plan #4 12-31-15            |                                     |                                |

| 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) |
| 0.00                         | 0.00            | 0.00        | 0.00                  | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 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                  |
| 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                  |
| 1,700.00                     | 0.00            | 0.00        | 1,700.00              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| 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                  |
| 4,447.58                     | 0.00            | 0.00        | 4,447.58              | 0.00         | 0.00         | 0.00                    | 0.00                    | 0.00                   | 0.00                  |
| KOP, Begin 12.00°/100' Build |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,500.00                     | 6.29            | 58.63       | 4,499.89              | 1.50         | 2.45         | 2.63                    | 12.00                   | 12.00                  | 0.00                  |
| 4,600.00                     | 18.29           | 58.63       | 4,597.42              | 12.56        | 20.60        | 22.03                   | 12.00                   | 12.00                  | 0.00                  |
| 4,700.00                     | 30.29           | 58.63       | 4,688.41              | 33.93        | 55.66        | 59.53                   | 12.00                   | 12.00                  | 0.00                  |
| 4,800.00                     | 42.29           | 58.63       | 4,768.86              | 64.69        | 106.10       | 113.48                  | 12.00                   | 12.00                  | 0.00                  |
| 4,900.00                     | 54.29           | 58.63       | 4,835.27              | 103.48       | 169.72       | 181.52                  | 12.00                   | 12.00                  | 0.00                  |
| 5,000.00                     | 66.29           | 58.63       | 4,884.74              | 148.61       | 243.75       | 260.70                  | 12.00                   | 12.00                  | 0.00                  |
| 5,100.00                     | 78.29           | 58.63       | 4,915.11              | 198.11       | 324.93       | 347.53                  | 12.00                   | 12.00                  | 0.00                  |

|           |                             |                              |                                |
|-----------|-----------------------------|------------------------------|--------------------------------|
| Database: | Compass 5000 GCR            | Local Co-ordinate Reference: | Well #47H                      |
| Company:  | Apache Corporation          | TVD Reference:               | KB @ 3805.00usft (Capstar 119) |
| Project:  | Eddy County, NM (NAD27 NME) | MD Reference:                | KB @ 3805.00usft (Capstar 119) |
| Site:     | NFE Federal COM             | North Reference:             | Grid                           |
| Well:     | #47H                        | Survey Calculation Method:   | Minimum Curvature              |
| Wellbore: | OH                          |                              |                                |
| Design:   | Plan #4 12-31-15            |                              |                                |

| 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) |
| 5,190.83                                   | 89.19           | 58.63       | 4,925.00              | 245.04       | 401.91       | 429.86                  | 12.00                   | 12.00                  | 0.00                  |
| LP, Hold 89.19° Inc, Begin 3.00°/100' Turn |                 |             |                       |              |              |                         |                         |                        |                       |
| 5,200.00                                   | 89.19           | 58.91       | 4,925.13              | 249.79       | 409.75       | 438.24                  | 3.00                    | -0.01                  | 3.00                  |
| 5,300.00                                   | 89.18           | 61.91       | 4,926.55              | 299.17       | 496.68       | 530.76                  | 3.00                    | -0.01                  | 3.00                  |
| 5,400.00                                   | 89.17           | 64.91       | 4,927.99              | 343.92       | 586.08       | 625.13                  | 3.00                    | -0.01                  | 3.00                  |
| 5,500.00                                   | 89.17           | 67.91       | 4,929.44              | 383.94       | 677.70       | 721.10                  | 3.00                    | -0.01                  | 3.00                  |
| 5,600.00                                   | 89.16           | 70.91       | 4,930.90              | 419.11       | 771.29       | 818.41                  | 3.00                    | 0.00                   | 3.00                  |
| 5,700.00                                   | 89.16           | 73.91       | 4,932.37              | 449.33       | 866.59       | 916.79                  | 3.00                    | 0.00                   | 3.00                  |
| 5,800.00                                   | 89.16           | 76.91       | 4,933.83              | 474.52       | 963.35       | 1,015.96                | 3.00                    | 0.00                   | 3.00                  |
| 5,900.00                                   | 89.17           | 79.91       | 4,935.29              | 494.61       | 1,061.29     | 1,115.66                | 3.00                    | 0.00                   | 3.00                  |
| 6,000.00                                   | 89.17           | 82.91       | 4,936.74              | 509.54       | 1,160.14     | 1,215.61                | 3.00                    | 0.01                   | 3.00                  |
| 6,100.00                                   | 89.18           | 85.91       | 4,938.17              | 519.29       | 1,259.64     | 1,315.55                | 3.00                    | 0.01                   | 3.00                  |
| 6,200.00                                   | 89.19           | 88.91       | 4,939.59              | 523.81       | 1,359.52     | 1,415.18                | 3.00                    | 0.01                   | 3.00                  |
| 6,223.26                                   | 89.19           | 89.61       | 4,939.92              | 524.11       | 1,382.78     | 1,438.29                | 3.00                    | 0.01                   | 3.00                  |
| Hold 89.61° Azm                            |                 |             |                       |              |              |                         |                         |                        |                       |
| 6,300.00                                   | 89.19           | 89.61       | 4,941.00              | 524.64       | 1,459.51     | 1,514.46                | 0.00                    | 0.00                   | 0.00                  |
| 6,400.00                                   | 89.19           | 89.61       | 4,942.41              | 525.33       | 1,559.49     | 1,613.72                | 0.00                    | 0.00                   | 0.00                  |
| 6,500.00                                   | 89.19           | 89.61       | 4,943.81              | 526.01       | 1,659.48     | 1,712.98                | 0.00                    | 0.00                   | 0.00                  |
| 6,600.00                                   | 89.19           | 89.61       | 4,945.22              | 526.70       | 1,759.47     | 1,812.24                | 0.00                    | 0.00                   | 0.00                  |
| 6,700.00                                   | 89.19           | 89.61       | 4,946.63              | 527.39       | 1,859.46     | 1,911.50                | 0.00                    | 0.00                   | 0.00                  |
| 6,800.00                                   | 89.19           | 89.61       | 4,948.03              | 528.08       | 1,959.44     | 2,010.76                | 0.00                    | 0.00                   | 0.00                  |
| 6,900.00                                   | 89.19           | 89.61       | 4,949.44              | 528.76       | 2,059.43     | 2,110.02                | 0.00                    | 0.00                   | 0.00                  |
| 7,000.00                                   | 89.19           | 89.61       | 4,950.85              | 529.45       | 2,159.42     | 2,209.28                | 0.00                    | 0.00                   | 0.00                  |
| 7,100.00                                   | 89.19           | 89.61       | 4,952.25              | 530.14       | 2,259.41     | 2,308.54                | 0.00                    | 0.00                   | 0.00                  |
| 7,200.00                                   | 89.19           | 89.61       | 4,953.66              | 530.83       | 2,359.40     | 2,407.80                | 0.00                    | 0.00                   | 0.00                  |
| 7,300.00                                   | 89.19           | 89.61       | 4,955.07              | 531.51       | 2,459.38     | 2,507.06                | 0.00                    | 0.00                   | 0.00                  |
| 7,400.00                                   | 89.19           | 89.61       | 4,956.47              | 532.20       | 2,559.37     | 2,606.32                | 0.00                    | 0.00                   | 0.00                  |
| 7,500.00                                   | 89.19           | 89.61       | 4,957.88              | 532.89       | 2,659.36     | 2,705.58                | 0.00                    | 0.00                   | 0.00                  |
| 7,600.00                                   | 89.19           | 89.61       | 4,959.29              | 533.58       | 2,759.35     | 2,804.84                | 0.00                    | 0.00                   | 0.00                  |
| 7,700.00                                   | 89.19           | 89.61       | 4,960.69              | 534.26       | 2,859.33     | 2,904.10                | 0.00                    | 0.00                   | 0.00                  |
| 7,800.00                                   | 89.19           | 89.61       | 4,962.10              | 534.95       | 2,959.32     | 3,003.36                | 0.00                    | 0.00                   | 0.00                  |
| 7,900.00                                   | 89.19           | 89.61       | 4,963.51              | 535.64       | 3,059.31     | 3,102.63                | 0.00                    | 0.00                   | 0.00                  |
| 8,000.00                                   | 89.19           | 89.61       | 4,964.91              | 536.33       | 3,159.30     | 3,201.89                | 0.00                    | 0.00                   | 0.00                  |
| 8,100.00                                   | 89.19           | 89.61       | 4,966.32              | 537.01       | 3,259.29     | 3,301.15                | 0.00                    | 0.00                   | 0.00                  |
| 8,200.00                                   | 89.19           | 89.61       | 4,967.72              | 537.70       | 3,359.27     | 3,400.41                | 0.00                    | 0.00                   | 0.00                  |
| 8,300.00                                   | 89.19           | 89.61       | 4,969.13              | 538.39       | 3,459.26     | 3,499.67                | 0.00                    | 0.00                   | 0.00                  |
| 8,400.00                                   | 89.19           | 89.61       | 4,970.54              | 539.08       | 3,559.25     | 3,598.93                | 0.00                    | 0.00                   | 0.00                  |
| 8,500.00                                   | 89.19           | 89.61       | 4,971.94              | 539.76       | 3,659.24     | 3,698.19                | 0.00                    | 0.00                   | 0.00                  |
| 8,600.00                                   | 89.19           | 89.61       | 4,973.35              | 540.45       | 3,759.22     | 3,797.45                | 0.00                    | 0.00                   | 0.00                  |
| 8,700.00                                   | 89.19           | 89.61       | 4,974.76              | 541.14       | 3,859.21     | 3,896.71                | 0.00                    | 0.00                   | 0.00                  |
| 8,800.00                                   | 89.19           | 89.61       | 4,976.16              | 541.83       | 3,959.20     | 3,995.97                | 0.00                    | 0.00                   | 0.00                  |
| 8,900.00                                   | 89.19           | 89.61       | 4,977.57              | 542.51       | 4,059.19     | 4,095.23                | 0.00                    | 0.00                   | 0.00                  |
| 9,000.00                                   | 89.19           | 89.61       | 4,978.98              | 543.20       | 4,159.17     | 4,194.49                | 0.00                    | 0.00                   | 0.00                  |
| 9,072.73                                   | 89.19           | 89.61       | 4,980.00              | 543.70       | 4,231.90     | 4,266.68                | 0.00                    | 0.00                   | 0.00                  |
| TD at 9072.73                              |                 |             |                       |              |              |                         |                         |                        |                       |

|           |                             |                              |                                |
|-----------|-----------------------------|------------------------------|--------------------------------|
| Database: | Compass 5000 GCR            | Local Co-ordinate Reference: | Well #47H                      |
| Company:  | Apache Corporation          | TVD Reference:               | KB @ 3805.00usft (Capstar 119) |
| Project:  | Eddy County, NM (NAD27 NME) | MD Reference:                | KB @ 3805.00usft (Capstar 119) |
| Site:     | NFE Federal COM             | North Reference:             | Grid                           |
| Well:     | #47H                        | Survey Calculation Method:   | Minimum Curvature              |
| Wellbore: | OH                          |                              |                                |
| Design:   | Plan #4 12-31-15            |                              |                                |

| Design Targets            |                 |           |         |          |        |          |            |            |                                       |
|---------------------------|-----------------|-----------|---------|----------|--------|----------|------------|------------|---------------------------------------|
| Target Name               | hit/miss target | Dip Angle | Dip Dir | TVD      | N/S    | E/W      | Northing   | Easting    |                                       |
| Shape                     |                 | (°)       | (°)     | (usft)   | (usft) | (usft)   | (usft)     | (usft)     | Latitude Longitude                    |
| BHL-NFE Fed #47H v        |                 | 0.00      | 0.00    | 4,980.00 | 543.70 | 4,231.90 | 678,748.40 | 638,002.20 | 32° 51' 54.55751 N 103° 53' 1.99701 W |
| - plan hits target center |                 |           |         |          |        |          |            |            |                                       |
| - Point                   |                 |           |         |          |        |          |            |            |                                       |

| Formations     |                |                |           |      |               |
|----------------|----------------|----------------|-----------|------|---------------|
| Measured Depth | Vertical Depth | Name           | Lithology | Dip  | Dip Direction |
| (usft)         | (usft)         |                |           | (°)  | (°)           |
| 350.00         | 350.00         | Rustler        |           | 0.81 | 82.68         |
| 562.00         | 562.00         | T/Salt         |           | 0.81 | 82.68         |
| 1,175.00       | 1,175.00       | B/Salt         |           | 0.81 | 82.68         |
| 1,572.00       | 1,572.00       | Yates          |           | 0.81 | 82.68         |
| 1,855.00       | 1,855.00       | Seven Rivers   |           | 0.81 | 82.68         |
| 2,465.00       | 2,465.00       | Queen          |           | 0.81 | 82.68         |
| 2,885.00       | 2,885.00       | Grayburg       |           | 0.81 | 82.68         |
| 3,209.00       | 3,209.00       | San Andres     |           | 0.81 | 82.68         |
| 4,662.83       | 4,655.62       | Glorieta       |           | 0.81 | 82.68         |
| 4,763.95       | 4,741.30       | Yeso (Paddock) |           | 0.81 | 82.68         |

| Plan Annotations |                |                   |            |                                            |
|------------------|----------------|-------------------|------------|--------------------------------------------|
| Measured Depth   | Vertical Depth | Local Coordinates |            | Comment                                    |
| (usft)           | (usft)         | N/S (usft)        | E/W (usft) |                                            |
| 4,447.58         | 4,447.58       | 0.00              | 0.00       | KOP, Begin 12.00°/100' Build               |
| 5,190.83         | 4,925.00       | 245.04            | 401.91     | LP, Hold 89.19° Inc, Begin 3.00°/100' Turn |
| 6,223.26         | 4,939.92       | 524.11            | 1,382.78   | Hold 89.61° Azm                            |
| 9,072.73         | 4,980.00       | 543.70            | 4,231.90   | TD at 9072.73                              |

**NFE FEDERAL COM 47H  
30-015-43507  
Apache Corporation  
Conditions of Approval**

**Original COA still applies, except for the replacement of the cement fill behind the 7 x 5 1/2 inch production casing.**

1. The minimum required fill of cement behind the 7 x 5 1/2 inch production casing is:

☒ Cement as proposed by operator. Operator shall provide method of verification. Excess calculates to negative -35% - Additional cement shall be required.

**KGR 01042016**