

OCD-ARTESIA

Form 3160-5  
(June 1990)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

NOV 01 2007

1 Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

OCD-ARTESIA

2 Name of Operator

Mack Energy Corporation

3 Address and Telephone No

P.O. Box 960 Artesia, NM 88211-0960 (505)748-1288

4 Location of Well (Footage, Sec., T., R., M. or Survey Description)

SHL 2248 FNL & 763 FEL, Sec. 6 T16S R29E  
BHL 3631 FSL & 975 FEL, Sec. 6 T16S R29E

FORM APPROVED

Budget Bureau No 1004-0135

Expires March 31, 1993

5 Lease Designation and Serial No

NM-98171

6 If Indian, Allottee or Tribe Name

7 If Unit or CA, Agreement Designation

8 Well Name and No

Bears Federal #2

9 API Well No

30-015-35769

10 Field and Pool, or Exploratory Area

Ishee Lake; San Andres

11 County or Parish, State

Eddy, NM

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

TYPE OF SUBMISSION

- ☒ Notice of Intent  
☐ Subsequent Report  
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☐ Other \_\_\_\_\_  
☒ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut-Off  
☐ Conversion to Injection  
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13 Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work)\*

Mack Energy Corporation is changing the proposed horizontal direction. The well be drilled to the south to the above mentioned BHL. All surface, BOP, and casing specifications will remain the same. 5 1/2 production string will be run to TD. No pits will be constructed at this location, this well will be drilled using a closed loop system.

APPROVED

OCT 30 2007

LES BABYAK  
PETROLEUM ENGINEER

14 I hereby certify that the foregoing is true and correct

Signed

*James W. Sherrill*

Title

Production Clerk

Date

10/22/07

(This space for Federal or State office use)

Approved by

Conditions of approval, if any

Title

Date

Title 18 U.S.C. Section 1001, makes 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

•See Instruction on Reverse Side



## **Mack Energy Corp.**

Eddy County, NM (NAD 27 NME)

Bears Federal #2H

Bears Federal #2H

Wellbore #1

Plan: Plan #2

## **Standard Planning Report**

22 October, 2007



**Scientific Drilling**  
Directional Drilling Operations



Scientific Drilling  
Planning Report



|           |                              |                              |                            |
|-----------|------------------------------|------------------------------|----------------------------|
| Database: | EDM 2003:16 Single User Db.  | Local Co-ordinate Reference: | Well Bears Federal #2H     |
| Company:  | Mack Energy Corp             | TVD Reference:               | WELL @ 3617.00ft (KB Elev) |
| Project:  | Eddy County, NM (NAD 27 NME) | MD Reference:                | WELL @ 3617.00ft (KB Elev) |
| Site:     | Bears Federal #2H            | North Reference:             | Grd                        |
| Well:     | Bears Federal #2H            | Survey Calculation Method:   | Minimum Curvature          |
| Wellbore: | Wellbore #1                  |                              |                            |
| Design:   | Plan #2                      |                              |                            |

|             |                                      |               |                |
|-------------|--------------------------------------|---------------|----------------|
| Project:    | Eddy County, NM (NAD 27 NME)         |               |                |
| Map System: | US State Plane 1927 (Exact solution) | System Datum: | Mean Sea Level |
| Geo Datum:  | NAD 1927 (NADCON CONUS)              |               |                |
| Map Zone:   | New Mexico East 3001                 |               |                |

|                       |                   |                   |                  |
|-----------------------|-------------------|-------------------|------------------|
| Site:                 | Bears Federal #2H |                   |                  |
| Site Position:        |                   | Northing:         | 712,702.60 ft    |
| From:                 | Map               | Easting:          | 569,230.30 ft    |
| Position Uncertainty: | 0.00 ft           | Slot Radius:      | ft               |
|                       |                   | Latitude:         | 32° 57' 32.716 N |
|                       |                   | Longitude:        | 104° 6' 27.451 W |
|                       |                   | Grid Convergence: | 0.12 °           |

|                      |                   |         |                     |               |               |                  |
|----------------------|-------------------|---------|---------------------|---------------|---------------|------------------|
| Well                 | Bears Federal #2H |         |                     |               |               |                  |
| Well Position        | +N/-S             | 0 00 ft | Northing:           | 712,702 60 ft | Latitude:     | 32° 57' 32.716 N |
|                      | +E/-W             | 0 00 ft | Easting:            | 569,230 30 ft | Longitude:    | 104° 6' 27 451 W |
| Position Uncertainty |                   | 0 00 ft | Wellhead Elevation: | 3,617.00 ft   | Ground Level: | 0 00 ft          |

|             |            |             |                 |               |                     |
|-------------|------------|-------------|-----------------|---------------|---------------------|
| Wellbore #1 |            |             |                 |               |                     |
| Magnetics   | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|             | IGRF200510 | 10/22/2007  | 8.31            | 60.87         | 49,384              |

|                   |                          |               |               |                  |
|-------------------|--------------------------|---------------|---------------|------------------|
| Design:           |                          | Plan #2       |               |                  |
| Audit Notes:      |                          |               |               |                  |
| Version:          | Phase:                   | PLAN          | Tie On Depth: | 0 00             |
| Vertical Section: | Depth From (TVD)<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Direction<br>(°) |
|                   | 0 00                     | 0 00          | 0 00          | 185 41           |

|                     |                 |             |                     |            |            |                       |                      |                     |         |                     |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|---------------------|
| Plan Sections:      |                 |             |                     |            |            |                       |                      |                     |         |                     |
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate ("/100ft) | Turn Rate ("/100ft) | TFO (°) | Target              |
| 0.00                | 0.00            | 0.00        | 0.00                | 0.00       | 0.00       | 0.00                  | 0.00                 | 0.00                | 0.00    |                     |
| 2.070.00            | 0.00            | 0.00        | 2.070.00            | 0.00       | 0.00       | 0.00                  | 0.00                 | 0.00                | 0.00    |                     |
| 2.803.58            | 88.07           | 185.41      | 2.546.99            | -459.10    | -43.51     | 12.00                 | 12.00                | 0.00                | 185.41  |                     |
| 4.433.45            | 88.07           | 185.41      | 2.602.00            | -2,080.78  | -197.18    | 0.00                  | 0.00                 | 0.00                | 0.00    | PBHL- Bears Fed #2H |



Scientific Drilling  
Planning Report



|           |                              |                              |                            |
|-----------|------------------------------|------------------------------|----------------------------|
| Database: | EDM 2003 16 Single User Db   | Local Co-ordinate Reference: | Well Bears Federal #2H     |
| Company:  | Mack Energy Corp             | TVD Reference:               | WELL @ 3617 00ft (KB Elev) |
| Project:  | Eddy County, NM (NAD 27 NME) | MD Reference:                | WELL @ 3617 00ft (KB Elev) |
| Site:     | Bears Federal #2H            | North Reference:             | Grid                       |
| Well:     | Bears Federal #2H            | Survey Calculation Method:   | Minimum Curvature          |
| Wellbore: | Wellbore #1                  |                              |                            |
| Design:   | Plan #2                      |                              |                            |

| Measured Depth (ft)                                | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|----------------------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 0.00                                               | 0 00            | 0 00        | 0.00                | 0.00       | 0.00       | 0 00                  | 0 00                  | 0.00                 | 0 00                |
| East HL - Bears Fed #2H - South HL - Bears Fed #2H |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,070 00                                           | 0 00            | 0 00        | 2,070 00            | 0.00       | 0 00       | 0 00                  | 0 00                  | 0 00                 | 0 00                |
| KOP 2070' Start 12.0°/100'                         |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,100.00                                           | 3 60            | 185 41      | 2,099 98            | -0.94      | -0 09      | 0 94                  | 12 00                 | 12 00                | 0 00                |
| 2,200 00                                           | 15 61           | 185 41      | 2,198 39            | -17 52     | -1 66      | 17 59                 | 12 00                 | 12 00                | 0 00                |
| 2,300 00                                           | 27 61           | 185 41      | 2,291 20            | -54 11     | -5 13      | 54 35                 | 12 00                 | 12 00                | 0 00                |
| 2,400 00                                           | 39 62           | 185 41      | 2,374 32            | -109 12    | -10 34     | 109 61                | 12 00                 | 12 00                | 0 00                |
| 2,500.00                                           | 51 62           | 185 41      | 2,444 14            | -180 14    | -17 07     | 180.95                | 12 00                 | 12 00                | 0.00                |
| 2,599 99                                           | 63 63           | 185 41      | 2,497 59            | -264 07    | -25 02     | 265 25                | 12 00                 | 12 00                | 0 00                |
| 2,699 99                                           | 75 63           | 185 41      | 2,532 34            | -357 22    | -33 85     | 358.82                | 12 00                 | 12 00                | 0 00                |
| 2,799 99                                           | 87 64           | 185 41      | 2,546.86            | -455 54    | -43 17     | 457.58                | 12 00                 | 12.00                | 0 00                |
| 2,803 58                                           | 88 07           | 185.41      | 2,546.99            | -459.10    | -43 51     | 461 16                | 12.00                 | 12 00                | 0 00                |
| EOC hold 88.07°                                    |                 |             |                     |            |            |                       |                       |                      |                     |
| 2,899.99                                           | 88 07           | 185 41      | 2,550 25            | -555.03    | -52.60     | 557 52                | 0 00                  | 0 00                 | 0 00                |
| 2,999 99                                           | 88 07           | 185 41      | 2,553 62            | -654.53    | -62.02     | 657 46                | 0 00                  | 0 00                 | 0 00                |
| 3,099 99                                           | 88 07           | 185 41      | 2,557 00            | -754.03    | -71.45     | 757 41                | 0 00                  | 0 00                 | 0 00                |
| 3,199 99                                           | 88.07           | 185 41      | 2,560 37            | -853 52    | -80 88     | 857 35                | 0 00                  | 0 00                 | 0 00                |
| 3,299 99                                           | 88.07           | 185 41      | 2,563.75            | -953 02    | -90.31     | 957 29                | 0 00                  | 0.00                 | 0 00                |
| 3,399 99                                           | 88 07           | 185 41      | 2,567.12            | -1,052 52  | -99.74     | 1,057 23              | 0 00                  | 0.00                 | 0 00                |
| 3,499 99                                           | 88 07           | 185 41      | 2,570 50            | -1,152 02  | -109 17    | 1,157.18              | 0 00                  | 0 00                 | 0 00                |
| 3,599 99                                           | 88 07           | 185 41      | 2,573 87            | -1,251.51  | -118.60    | 1,257 12              | 0 00                  | 0 00                 | 0 00                |
| 3,699 99                                           | 88 07           | 185 41      | 2,577 25            | -1,351.01  | -128 03    | 1,357 06              | 0 00                  | 0 00                 | 0 00                |
| 3,799.99                                           | 88 07           | 185 41      | 2,580 62            | -1,450 51  | -137 45    | 1,457 01              | 0 00                  | 0.00                 | 0 00                |
| 3,899 99                                           | 88 07           | 185 41      | 2,584 00            | -1,550 00  | -146 88    | 1,556 95              | 0 00                  | 0 00                 | 0 00                |
| 3,999 99                                           | 88 07           | 185.41      | 2,587 37            | -1,649 50  | -156.31    | 1,656 89              | 0 00                  | 0 00                 | 0 00                |
| 4,099 99                                           | 88 07           | 185.41      | 2,590.75            | -1,749 00  | -165 74    | 1,756 83              | 0 00                  | 0 00                 | 0 00                |
| 4,199 99                                           | 88 07           | 185 41      | 2,594 12            | -1,848 50  | -175 17    | 1,856 78              | 0 00                  | 0.00                 | 0 00                |
| 4,299 99                                           | 88 07           | 185.41      | 2,597 50            | -1,947.99  | -184 60    | 1,956 72              | 0 00                  | 0.00                 | 0 00                |
| 4,399.99                                           | 88 07           | 185 41      | 2,600 87            | -2,047 49  | -194 03    | 2,056.66              | 0 00                  | 0 00                 | 0 00                |
| 4,433 45                                           | 88 07           | 185 41      | 2,602 00            | -2,080 78  | -197 18    | 2,090.10              | 0 00                  | 0 00                 | 0 00                |
| PBHL - Bears Fed #2H                               |                 |             |                     |            |            |                       |                       |                      |                     |

| Target Name                                                        | hit/miss target | Dip Angle (°) | Dip Dir (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude         | Longitude        |
|--------------------------------------------------------------------|-----------------|---------------|-------------|----------|------------|------------|---------------|--------------|------------------|------------------|
| East HL - Bears Fed #2H                                            |                 | 0 00          | 0 00        | 0 00     | -2,090 78  | -207 18    | 710,611 82    | 569,023 12   | 32° 57' 12.032 N | 104° 6' 29 935 W |
| - plan misses by 2101 02ft at 0.00ft MD (0 00 TVD, 0 00 N, 0 00 E) |                 |               |             |          |            |            |               |              |                  |                  |
| - Rectangle (sides W2,000 00 H0.00 D0 00)                          |                 |               |             |          |            |            |               |              |                  |                  |
| PBHL - Bears Fed #2H                                               |                 | 0.00          | 0 00        | 2,602 00 | -2,080 78  | -197 18    | 710,621 82    | 569,033.12   | 32° 57' 12.131 N | 104° 6' 29 818 W |
| - plan hits target                                                 |                 |               |             |          |            |            |               |              |                  |                  |
| - Circle (radius 10 00)                                            |                 |               |             |          |            |            |               |              |                  |                  |
| South HL - Bears Fed #2H                                           |                 | 0.00          | 0 00        | 0 00     | -2,090 78  | -207 18    | 710,611 82    | 569,023 12   | 32° 57' 12.032 N | 104° 6' 29.935 W |
| - plan misses by 2101 02ft at 0 00ft MD (0 00 TVD, 0 00 N, 0 00 E) |                 |               |             |          |            |            |               |              |                  |                  |
| - Rectangle (sides W0 00 H2,000 00 D0 00)                          |                 |               |             |          |            |            |               |              |                  |                  |



|           |                              |                              |                            |
|-----------|------------------------------|------------------------------|----------------------------|
| Database: | EDM 2003.16 Single User.Db   | Local Co-ordinate Reference: | Well Bears Federal #2H     |
| Company:  | Mack Energy Corp.            | TVD Reference:               | WELL @ 3617.00ft (KB Elev) |
| Project:  | Eddy County, NM (NAD 27 NME) | MD Reference:                | WELL @ 3617.00ft (KB Elev) |
| Site:     | Bears Federal #2H            | North Reference:             | Gnd                        |
| Well:     | Bears Federal #2H            | Survey Calculation Method:   | Minimum Curvature          |
| Wellbore: | Wellbore #1                  |                              |                            |
| Design:   | Plan #2                      |                              |                            |

| Plan Annotations          |                           |                   |               |                            |
|---------------------------|---------------------------|-------------------|---------------|----------------------------|
| Measured<br>Depth<br>(ft) | Vertical<br>Depth<br>(ft) | Local Coordinates |               | Comment                    |
|                           |                           | +N/-S<br>(ft)     | +E/-W<br>(ft) |                            |
| 2,070.00                  | 2,070.00                  | 0.00              | 0.00          | KOP 2070' Start 12.0°/100' |
| 2,803.58                  | 2,547.00                  | -459.10           | -43.51        | EOC hold 88.07°            |



Scientific Drilling for Mack Energy Corp  
Site: Eddy County, NM (NAD 27 NME)  
Well: Bears Federal #2H  
Wellbore: Wellbore #1  
Design: Plan #2



#### SECTION DETAILS

| Sec | MD      | Inc   | Azi    | TVD     | +N/-S    | +E/-W   | DLeg  | TFace  | VSec    | Target              |
|-----|---------|-------|--------|---------|----------|---------|-------|--------|---------|---------------------|
| 1   | 0.00    | 0.00  | 0.00   | 0.00    | 0.00     | 0.00    | 0.00  | 0.00   | 0.00    |                     |
| 2   | 2070.00 | 0.00  | 0.00   | 2070.00 | 0.00     | 0.00    | 0.00  | 0.00   | 0.00    |                     |
| 3   | 2803.58 | 88.07 | 185.41 | 2547.00 | -459.10  | -43.51  | 12.00 | 185.41 | 461.16  |                     |
| 4   | 4433.45 | 88.07 | 185.41 | 2602.00 | -2080.78 | -197.18 | 0.00  | 0.00   | 2090.10 | PBHL- Bears Fed #2H |

#### WELL DETAILS Bears Federal #2H

| Ground Level: 0 00 |       |                 |                  |
|--------------------|-------|-----------------|------------------|
| +N/-S              | +E/-W | Northing        | Easting          |
| 0 00               | 0 00  | 712702.60       | 569230.30        |
|                    |       | Latitude        | Longitude        |
|                    |       | 32°57' 32 716 N | 104°6' 2 7 451 W |

#### WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

| Name                     | TVD     | +N/-S    | +E/-W   | Northing  | Easting   | Shape                             |
|--------------------------|---------|----------|---------|-----------|-----------|-----------------------------------|
| East HL - Bears Fed #2H  | 0 00    | -2090.78 | -207.18 | 710611.82 | 569023.12 | Rectangle (Sides: L2000.00 W0 00) |
| South HL - Bears Fed #2H | 0 00    | -2090.78 | -207.18 | 710611.82 | 569023.12 | Rectangle (Sides: L0.00 W2000.00) |
| PBHL- Bears Fed #2H      | 2602.00 | -2080.78 | -197.18 | 710621.82 | 569033.12 | Circle (Radius 10 00)             |

#### PROJECT DETAILS: Eddy County, NM (NAD 27 NME)

Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001

System Datum: Mean Sea Level

Plan: Plan #2 (Bears Federal #2H/Wellbore #1)

Created By: Julio Pina Date: 22-Oct-07

Checked: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed: \_\_\_\_\_ Date: \_\_\_\_\_

Approved: \_\_\_\_\_ Date: \_\_\_\_\_

