

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTCarlsbad Field Office  
OCD ArtesiaFORM APPROVED  
OMB NO. 1004-0137  
Expires: January 31, 2018**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.*

|                                                                                                                                                                  |                                                       |                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| <b>SUBMIT IN TRIPLICATE - Other instructions on page 2</b>                                                                                                       |                                                       | 5. Lease Serial No.<br>NMNM120350                  |
|                                                                                                                                                                  |                                                       | 6. If Indian, Allottee or Tribe Name               |
|                                                                                                                                                                  |                                                       | 7. If Unit or CA/Agreement, Name and/or No.        |
| 1. Type of Well<br><input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other                                 |                                                       | 8. Well Name and No.<br>HORNSBY 35 FEDERAL COM 10H |
| 2. Name of Operator<br>CIMAREX ENERGY COMPANY OF CO<br>Contact: ARICKA EASTERLING<br>Email: aeasterling@cimarex.com                                              |                                                       | 9. API Well No.<br>30-015-42170-00-X1              |
| 3a. Address<br>202 S CHEYENNE AVE SUITE 1000<br>TULSA, OK 74103.4346                                                                                             | 3b. Phone No. (include area code)<br>Ph: 918-560-7060 | 10. Field and Pool or Exploratory Area<br>WILDCAT  |
| 4. Location of Well (Footage, Sec., T., R., M., or Survey Description)<br>Sec 35 T26S R27E Lot 1 <del>0210FSL 0700FEL</del><br>32.000207 N Lat, 104.091722 W Lon |                                                       | 11. County or Parish, State<br>EDDY COUNTY, NM     |

## 12. CHECK THE 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"/> Hydraulic Fracturing | <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<br>Change to Original A.<br>PD |
|                                                      | <input type="checkbox"/> Change Plans         | <input type="checkbox"/> Plug and Abandon     | <input type="checkbox"/> Temporarily Abandon       |                                                                          |
|                                                      | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back            | <input type="checkbox"/> Water Disposal            |                                                                          |

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 recomplete 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 must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Cimarex has modified the drilling plan. Please see the drilling plan.

\* Approved sundry (Electronic Submission # 321179) SHL 290 FSL 820 FEL 35-265-27  
BHL 330 FNL 550 FEL 26-265-27

\* All previous COAs still apply

\* Additional cement maybe required on surface + production strings

NM OIL CONSERVATION  
ARTESIA DISTRICT

FEB 06 2017

|                                                                                                                                                                                                                                                                                          |                          |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------|
| 14. I hereby certify that the foregoing is true and correct.<br>Electronic Submission #359431 verified by the BLM Well Information System<br>For CIMAREX ENERGY COMPANY OF CO, sent to the Carlsbad<br>Committed to AFMSS for processing by JENNIFER SANCHEZ on 12/13/2016 (17JAS0119SE) |                          | RECEIVED |
| Name (Printed/Typed) ARICKA EASTERLING                                                                                                                                                                                                                                                   | Title REGULATORY ANALYST |          |
| Signature (Electronic Submission)                                                                                                                                                                                                                                                        | Date 11/30/2016          |          |

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

|                                                                                                                                                                                                                                                           |                          |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------|
| Approved By CHARLES NIMMER                                                                                                                                                                                                                                | Title PETROLEUM ENGINEER | Date 01/23/2017 |
| 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 Carlsbad |

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.

(Instructions on page 2)

\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\*

**1. Geological Formations**

TVD of target 7,710

Pilot Hole TD N/A

MD at TD 14,416

Deepest expected fresh water

| Formation             | Depth (TVD) from KB | Water/Mineral Bearing/Target Zone | Hazards |
|-----------------------|---------------------|-----------------------------------|---------|
| OSE Ground water      | 100                 | N/A                               |         |
| Salado                | 1575                | N/A                               |         |
| Castille              | 2120                | N/A                               |         |
| Bell Canyon           | 2285                | N/A                               |         |
| Cherry Canyon         | 3260                | N/A                               |         |
| Brushy Canyon         | 4440                | N/A                               |         |
| Brushy Canyon Lower   | 5735                | N/A                               |         |
| Bone Spring           | 5950                | Hydrocarbons                      |         |
| Bone Spring A Shale   | 6165                | Hydrocarbons                      |         |
| Bone Spring C Shale   | 6565                | Hydrocarbons                      |         |
| 1st Bone Spring Ss    | 6890                | Hydrocarbons                      |         |
| 2nd Bone Spring Ss    | 7390                | Hydrocarbons                      |         |
| 2nd BS Ss Horz target | 7745                | Hydrocarbons                      |         |
| 3rd BS Limestone      | 7830                | Hydrocarbons                      |         |

**2. Casing Program**

| Hole Size                 | Casing Depth From | Casing Depth To | Casing Size | Weight (lb/ft) | Grade | Conn. | SF Collapse | SF Burst | SF Tension         |
|---------------------------|-------------------|-----------------|-------------|----------------|-------|-------|-------------|----------|--------------------|
| 17 1/2                    | 0                 | 400             | 13-3/8"     | 48.00          | H-40  | ST&C  | 4.29        | 10.02    | 16.77              |
| 12 1/4                    | 0                 | 2200            | 9-5/8"      | 36.00          | J-55  | LT&C  | 1.73        | 3.02     | 5.72               |
| 8 3/4                     | 0                 | 7151            | 5-1/2"      | 17.00          | L-80  | LT&C  | 1.84        | 2.26     | 2.58               |
| 8 3/4                     | 7151              | 14416           | 5-1/2"      | 17.00          | L-80  | BT&C  | 1.71        | 2.10     | 41.78              |
| BLM Minimum Safety Factor |                   |                 |             |                |       |       | 1.125       | 1        | 1.6 Dry<br>1.8 Wet |

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

|                                                                                                                                                  | Y or N |
|--------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Is casing new? If used, attach certification as required in Onshore Order #1                                                                     | Y      |
| Does casing meet API specifications? If no, attach casing specification sheet.                                                                   | N      |
| Is premium or uncommon casing planned? If yes attach casing specification sheet.                                                                 | N      |
| Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria). | Y      |
| Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?                | N      |
| Is well located within Capitan Reef?                                                                                                             | N      |
| If yes, does production casing cement tie back a minimum of 50' above the Reef?                                                                  | N      |
| Is well within the designated 4 string boundary.                                                                                                 | N      |
| Is well located in SOPA but not in R-111-P?                                                                                                      | N      |
| If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?                                   | N      |
| Is well located in R-111-P and SOPA?                                                                                                             | N      |
| If yes, are the first three strings cemented to surface?                                                                                         | N      |
| Is 2nd string set 100' to 600' below the base of salt?                                                                                           | N      |
| Is well located in high Cave/Karst?                                                                                                              | N      |
| If yes, are there two strings cemented to surface?                                                                                               | N      |
| (For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?                                                           | N      |
| Is well located in critical Cave/Karst?                                                                                                          | N      |
| If yes, are there three strings cemented to surface?                                                                                             | N      |

**3. Cementing Program**

| Casing       | # Sk | Wt.<br>lb/gal | Yld<br>ft <sup>3</sup> /sack | H <sub>2</sub> O<br>gal/sk | 500# Comp.<br>Strength<br>(hours) | Slurry Description                                                     |
|--------------|------|---------------|------------------------------|----------------------------|-----------------------------------|------------------------------------------------------------------------|
| Surface      | 60   | 13.50         | 1.75                         | 8.83                       | 15.5                              | Lead: Class C + Bentonite + Calcium Chloride + LCM                     |
|              | 195  | 14.80         | 1.34                         | 6.32                       | 9.5                               | Tail: Class C + LCM                                                    |
|              |      |               |                              |                            |                                   |                                                                        |
| Intermediate | 421  | 12.90         | 1.88                         | 9.65                       | 12                                | Lead: 35:65 (Poz:C) + Salt + Bentonite                                 |
|              | 129  | 14.80         | 1.34                         | 6.32                       | 9.5                               | Tail: Class C + LCM                                                    |
|              |      |               |                              |                            |                                   |                                                                        |
| Production   | 689  | 10.80         | 2.35                         | 9.60                       | 17:43                             | Lead: Tuned Light I Class H                                            |
|              | 1556 | 14.20         | 1.30                         | 5.86                       | 14:30                             | Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS |
|              |      |               |                              |                            |                                   |                                                                        |

| Casing String | TOC  | % Excess |
|---------------|------|----------|
| Surface       | 0    | 31       |
| Intermediate  | 0    | 45       |
| Production    | 2000 | 16       |

**4. Pressure Control Equipment**

| A variance is requested for the use of a diverter on the surface casing. See attached for schematic. |        |                 |            |   |                         |
|------------------------------------------------------------------------------------------------------|--------|-----------------|------------|---|-------------------------|
| BOP installed and tested before drilling which hole?                                                 | Size   | Min Required WP | Type       |   | Tested To               |
| 12 1/4                                                                                               | 13 5/8 | 2M              | Annular    | X | 50% of working pressure |
|                                                                                                      |        |                 | Blind Ram  |   | 2M                      |
|                                                                                                      |        |                 | Pipe Ram   |   |                         |
|                                                                                                      |        |                 | Double Ram | X |                         |
|                                                                                                      |        |                 | Other      |   |                         |
| 8 3/4                                                                                                | 13 5/8 | 3M              | Annular    | X | 50% of working pressure |
|                                                                                                      |        |                 | Blind Ram  |   | 3M                      |
|                                                                                                      |        |                 | Pipe Ram   |   |                         |
|                                                                                                      |        |                 | Double Ram | X |                         |
|                                                                                                      |        |                 | Other      |   |                         |

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

|   |                                                                                                                                                                                                                                                                                                               |  |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|   | Formation integrity test will be performed per Onshore Order #2.<br>On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i. |  |
| X | A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.                                                                                                                                                               |  |
| N | Are anchors required by manufacturer?                                                                                                                                                                                                                                                                         |  |

**5. Mud Program**

| Depth           | Type         | Weight (ppg) | Viscosity | Water Loss |
|-----------------|--------------|--------------|-----------|------------|
| 0' to 400'      | FW Spud Mud  | 7.80 - 8.30  | 28        | N/C        |
| 400' to 2200'   | Brine Water  | 9.70 - 10.20 | 30-32     | N/C        |
| 2200' to 14426' | FW/Cut Brine | 8.70 - 9.20  | 30-32     | N/C        |

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

|                                                         |                             |
|---------------------------------------------------------|-----------------------------|
| What will be used to monitor the loss or gain of fluid? | PVT/Pason/Visual Monitoring |
|---------------------------------------------------------|-----------------------------|

**6. Logging and Testing Procedures**

| Logging, Coring and Testing |                                                                                                                                                             |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM. |
| X                           | No logs are planned based on well control or offset log information.                                                                                        |
|                             | Drill stem test?                                                                                                                                            |
|                             | Coring?                                                                                                                                                     |

| Additional Logs Planned | Interval |
|-------------------------|----------|
|-------------------------|----------|

**7. Drilling Conditions**

| Condition                  |          |
|----------------------------|----------|
| BH Pressure at deepest TVD | 3688 psi |
| Abnormal Temperature       | No       |

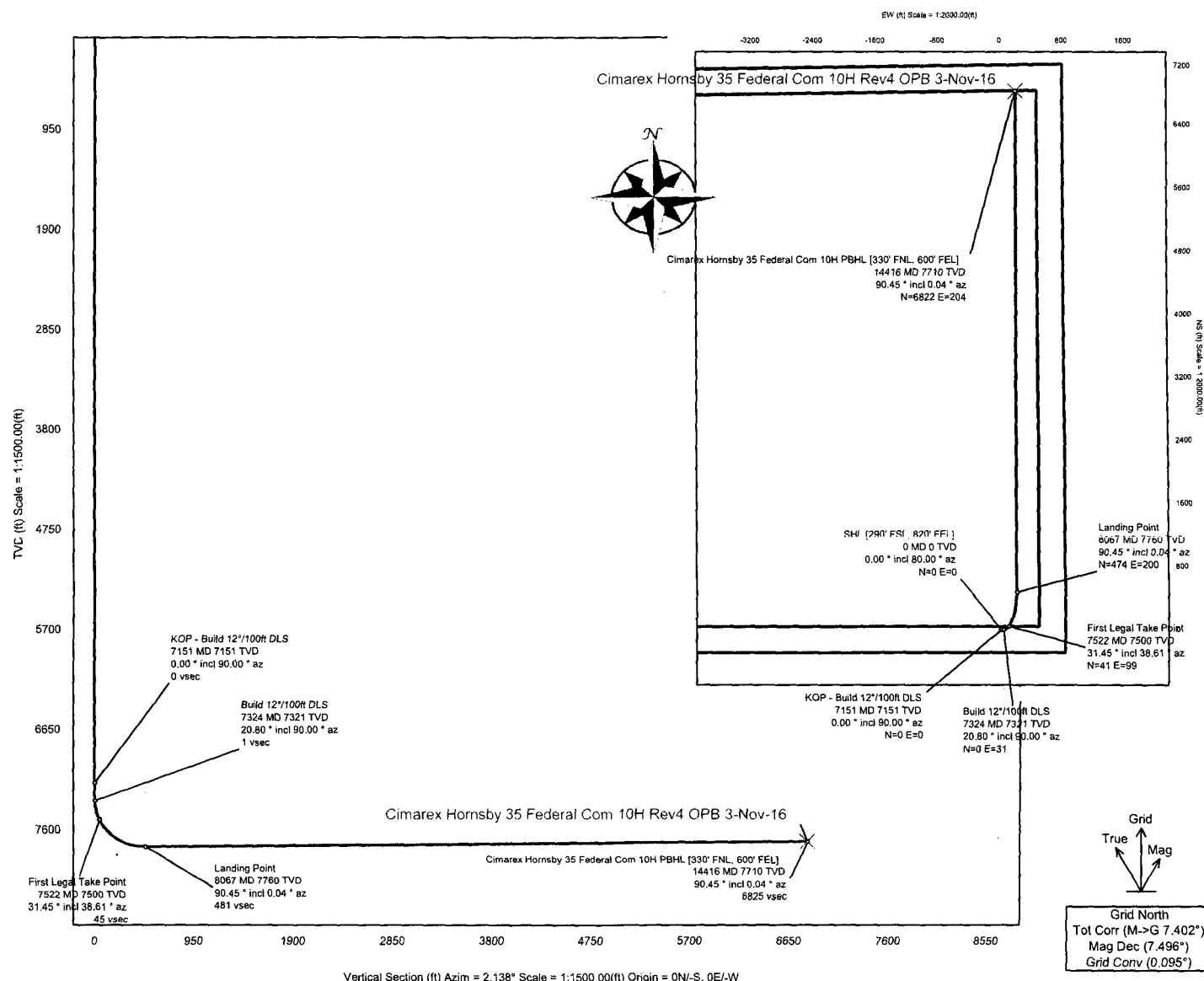
Hydrogen Sulfide (H<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

|   |                                   |
|---|-----------------------------------|
| X | H <sub>2</sub> S is present       |
| X | H <sub>2</sub> S plan is attached |

**8. Other Facets of Operation**

|                   |                            |                         |            |
|-------------------|----------------------------|-------------------------|------------|
| Borehole:         | Well:                      | Field:                  | Structure: |
| Original Borehole | Hornsby 35 Federal Com 10H | NM Eddy County (NAD 83) | TBD        |

|                                                                       |                                                                 |                                                              |
|-----------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------|
| Gravity & Magnetic Parameters                                         | Surface Location                                                | Miscellaneous                                                |
| Model: HDGM 2015 Dip: 59.722° Date: 20-Jul-2015                       | NAD83 New Mexico State Plane, Eastern Zone, US Feet             | Hornsby 35                                                   |
| MagDec: 7.496° FS: 48182.141nT Gravity FS: 998.684mgm (9.80665 Based) | Lat: N 32 0 2.65 Northing: 364073.29ftUS Grid Conv: 0.0946°     | Slot: Federal Com TVD Ref: Ground level (3225.1ft above MSL) |
|                                                                       | Lon: W 104 9 17.58 Easting: 596654.54ftUS Scale Fact: 0.9999126 | Plan: Hornsby 35 Federal Com 10H Rev4 OPB 3-Nov-16           |



Critical Points

| Critical Point                                               | MD       | INCL  | AZIM  | TVD     | VSEC    | N(+)/S(-) | E(+)/W(-) | DLS   |
|--------------------------------------------------------------|----------|-------|-------|---------|---------|-----------|-----------|-------|
| SHL [290° FSL, 820° FEL]                                     | 0.00     | 0.00  | 80.00 | 0.00    | 0.00    | 0.00      | 0.00      |       |
| KOP - Build 12°/100ft DLS                                    | 7151.00  | 0.00  | 90.00 | 7151.00 | 0.00    | 0.00      | 0.00      | 0.00  |
| Build 12°/100ft DLS                                          | 7324.33  | 20.80 | 90.00 | 7320.55 | 1.16    | 0.00      | 31.12     | 12.00 |
| First Legal Take Point                                       | 7522.00  | 31.45 | 38.61 | 7499.90 | 44.57   | 40.90     | 99.40     | 12.17 |
| Landing Point                                                | 8067.12  | 90.45 | 0.04  | 7760.00 | 481.22  | 474.10    | 199.82    | 12.17 |
| Cimarex Hornsby 35 Federal Com 10H PBHL [330° FNL, 600° FEL] | 14415.51 | 90.45 | 0.04  | 7710.00 | 6825.16 | 6822.28   | 204.44    | 0.00  |

|             |                                                      |                   |  |
|-------------|------------------------------------------------------|-------------------|--|
| D<br>E<br>C |                                                      | <b>CONTROLLED</b> |  |
| Plan ref    | Cimarex Hornsby 35 Federal Com 10H Rev4 OPB 3-Nov-16 |                   |  |
| Drawing ref |                                                      |                   |  |
| Copy number | of 3                                                 |                   |  |
| Date        | 03-Nov-2016                                          |                   |  |
| 1           | Client                                               |                   |  |
| 2           | Client                                               |                   |  |
| 3           | Office                                               |                   |  |
| 4           | Office                                               |                   |  |
| Copy number |                                                      | for               |  |

## Cimarex Hornsby 35 Federal Com 10H Rev4 OPB 3-Nov-16 Proposal

## Geodetic Report

(Non-Def Plan)



**Report Date:** November 03, 2016 - 03:42 PM  
**Client:** Cimarex  
**Field:** NM Eddy County (NAD 83)  
**Structure / Slot:** Cimarex Hornsby 35 Federal Com 10H / Cimarex Hornsby 35 Federal Com 10H  
**Well:** Cimarex Hornsby 35 Federal Com 10H  
**Borehole:** Original Borehole  
**UWI / API#:** Unknown / Unknown  
**Survey Name:** Cimarex Hornsby 35 Federal Com 10H Rev4 OPB 3-Nov-16  
**Survey Date:** October 14, 2013  
**Tort / AHD / DDI / ERD Ratio:** 111.217 ° / 6912.870 ft / 6.155 / 0.891  
**Coordinate Reference System:** NAD83 New Mexico State Plane, Eastern Zone, US Feet  
**Location Lat / Long:** N 32° 0' 2.85120", W 104° 9' 17.57880"  
**Location Grid N/E Y/X:** N 364073.286 ftUS, E 596654.538 ftUS  
**CRS Grid Convergence Angle:** 0.0946 °  
**Grid Scale Factor:** 0.9999126  
**Version / Patch:** 2.10.254.0

**Survey / DLS Computation:** Minimum Curvature / Lubinski  
**Vertical Section Azimuth:** 2.138 ° (Grid North)  
**Vertical Section Origin:** 0.000 ft, 0.000 ft  
**TVD Reference Datum:** Ground level  
**TVD Reference Elevation:** 3225.100 ft above MSL  
**Seabed / Ground Elevation:** 3225.100 ft above MSL  
**Magnetic Declination:** 7.496 °  
**Total Gravity Field Strength:** 998.6843mgm (9.80665 Based)  
**Gravity Model:** DOX  
**Total Magnetic Field Strength:** 48182.141 nT  
**Magnetic Dip Angle:** 59.722 °  
**Declination Date:** July 20, 2015  
**Magnetic Declination Model:** HDGM 2015  
**North Reference:** Grid North  
**Grid Convergence Used:** 0.0946 °  
**Total Corr Mag North->Grid North:** 7.4015 °  
**Local Coord Referenced To:** Structure Reference Point

| Comments                    | MD<br>(ft) | Incl<br>(°) | Azim<br>Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS) | Latitude<br>(N/S ° ' ")   | Longitude<br>(E/W ° ' ") |
|-----------------------------|------------|-------------|---------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|---------------------------|--------------------------|
| SHL [290' FSL,<br>820' FEL] | 0.00       | 0.00        | 80.00               | 0.00        | 0.00         | 0.00       | 0.00       | N/A              | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 100.00     | 0.00        | 90.00               | 100.00      | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 200.00     | 0.00        | 90.00               | 200.00      | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 300.00     | 0.00        | 90.00               | 300.00      | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 400.00     | 0.00        | 90.00               | 400.00      | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 500.00     | 0.00        | 90.00               | 500.00      | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 600.00     | 0.00        | 90.00               | 600.00      | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 700.00     | 0.00        | 90.00               | 700.00      | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 800.00     | 0.00        | 90.00               | 800.00      | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 900.00     | 0.00        | 90.00               | 900.00      | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 1000.00    | 0.00        | 90.00               | 1000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 1100.00    | 0.00        | 90.00               | 1100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 1200.00    | 0.00        | 90.00               | 1200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 1300.00    | 0.00        | 90.00               | 1300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 1400.00    | 0.00        | 90.00               | 1400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 1500.00    | 0.00        | 90.00               | 1500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 1600.00    | 0.00        | 90.00               | 1600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 1700.00    | 0.00        | 90.00               | 1700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 1800.00    | 0.00        | 90.00               | 1800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 1900.00    | 0.00        | 90.00               | 1900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 2000.00    | 0.00        | 90.00               | 2000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 2100.00    | 0.00        | 90.00               | 2100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 2200.00    | 0.00        | 90.00               | 2200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 2300.00    | 0.00        | 90.00               | 2300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 2400.00    | 0.00        | 90.00               | 2400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                             | 2500.00    | 0.00        | 90.00               | 2500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |

| Comments         | MD<br>(ft) | Incl<br>(°) | Azim Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS) | Latitude<br>(N/S ° ' ")   | Longitude<br>(E/W ° ' ") |
|------------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|---------------------------|--------------------------|
|                  | 2600.00    | 0.00        | 90.00            | 2600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 2700.00    | 0.00        | 90.00            | 2700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 2800.00    | 0.00        | 90.00            | 2800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 2900.00    | 0.00        | 90.00            | 2900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 3000.00    | 0.00        | 90.00            | 3000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 3100.00    | 0.00        | 90.00            | 3100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 3200.00    | 0.00        | 90.00            | 3200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 3300.00    | 0.00        | 90.00            | 3300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 3400.00    | 0.00        | 90.00            | 3400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 3500.00    | 0.00        | 90.00            | 3500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 3600.00    | 0.00        | 90.00            | 3600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 3700.00    | 0.00        | 90.00            | 3700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 3800.00    | 0.00        | 90.00            | 3800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 3900.00    | 0.00        | 90.00            | 3900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 4000.00    | 0.00        | 90.00            | 4000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 4100.00    | 0.00        | 90.00            | 4100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 4200.00    | 0.00        | 90.00            | 4200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 4300.00    | 0.00        | 90.00            | 4300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 4400.00    | 0.00        | 90.00            | 4400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 4500.00    | 0.00        | 90.00            | 4500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 4600.00    | 0.00        | 90.00            | 4600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 4700.00    | 0.00        | 90.00            | 4700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 4800.00    | 0.00        | 90.00            | 4800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 4900.00    | 0.00        | 90.00            | 4900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 5000.00    | 0.00        | 90.00            | 5000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 5100.00    | 0.00        | 90.00            | 5100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 5200.00    | 0.00        | 90.00            | 5200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 5300.00    | 0.00        | 90.00            | 5300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 5400.00    | 0.00        | 90.00            | 5400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 5500.00    | 0.00        | 90.00            | 5500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 5600.00    | 0.00        | 90.00            | 5600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 5700.00    | 0.00        | 90.00            | 5700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 5800.00    | 0.00        | 90.00            | 5800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 5900.00    | 0.00        | 90.00            | 5900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 6000.00    | 0.00        | 90.00            | 6000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 6100.00    | 0.00        | 90.00            | 6100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 6200.00    | 0.00        | 90.00            | 6200.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 6300.00    | 0.00        | 90.00            | 6300.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 6400.00    | 0.00        | 90.00            | 6400.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 6500.00    | 0.00        | 90.00            | 6500.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 6600.00    | 0.00        | 90.00            | 6600.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 6700.00    | 0.00        | 90.00            | 6700.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 6800.00    | 0.00        | 90.00            | 6800.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 6900.00    | 0.00        | 90.00            | 6900.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 7000.00    | 0.00        | 90.00            | 7000.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
|                  | 7100.00    | 0.00        | 90.00            | 7100.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
| KOP - Build      | 7151.00    | 0.00        | 90.00            | 7151.00     | 0.00         | 0.00       | 0.00       | 0.00             | 364073.29          | 596654.54         | N 32 0 2.85 W 104 9 17.58 | 9 17.58                  |
| 12°/100ft DLS    | 7200.00    | 5.88        | 90.00            | 7199.91     | 0.09         | 0.00       | 2.51       | 12.00            | 364073.29          | 596657.05         | N 32 0 2.85 W 104 9 17.55 | 9 17.55                  |
|                  | 7300.00    | 17.88       | 90.00            | 7297.59     | 0.86         | 0.00       | 23.06      | 12.00            | 364073.29          | 596677.60         | N 32 0 2.85 W 104 9 17.31 | 9 17.31                  |
| Build 12°/100ft  | 7324.33    | 20.80       | 90.00            | 7320.55     | 1.16         | 0.00       | 31.12      | 12.00            | 364073.29          | 596685.65         | N 32 0 2.85 W 104 9 17.22 | 9 17.22                  |
| DLS              | 7400.00    | 22.69       | 65.49            | 7390.97     | 8.22         | 6.07       | 57.89      | 12.17            | 364079.35          | 596712.43         | N 32 0 2.91 W 104 9 16.91 | 9 16.91                  |
|                  | 7500.00    | 29.54       | 42.31            | 7480.94     | 35.81        | 32.40      | 92.17      | 12.17            | 364105.68          | 596746.70         | N 32 0 3.17 W 104 9 16.51 | 9 16.51                  |
| First Legal Take | 7522.00    | 31.45       | 38.61            | 7499.90     | 44.57        | 40.90      | 99.40      | 12.17            | 364114.18          | 596753.93         | N 32 0 3.25 W 104 9 16.42 | 9 16.42                  |
| Point            | 7600.00    | 38.89       | 28.31            | 7563.67     | 83.00        | 78.44      | 123.77     | 12.17            | 364151.72          | 596778.29         | N 32 0 3.63 W 104 9 16.14 | 9 16.14                  |
|                  | 7700.00    | 49.33       | 19.26            | 7635.45     | 147.66       | 142.11     | 151.27     | 12.17            | 364215.38          | 596805.79         | N 32 0 4.25 W 104 9 15.82 | 9 15.82                  |
|                  | 7800.00    | 60.28       | 12.74            | 7693.04     | 226.88       | 220.56     | 173.44     | 12.17            | 364293.83          | 596827.96         | N 32 0 5.03 W 104 9 15.56 | 9 15.56                  |

| Comments      | MD<br>(ft) | Incl<br>(°) | Azim Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS) | Latitude<br>(N/S ° ' '')   | Longitude<br>(E/W ° ' '') |
|---------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|----------------------------|---------------------------|
| Landing Point | 7900.00    | 71.49       | 7.52             | 7733.86     | 317.10       | 310.26     | 189.28     | 12.17            | 364383.52          | 596843.80         | N 32 0 5.92 W 104 9 15.37  | 9 15.37                   |
|               | 8000.00    | 82.82       | 2.96             | 7756.06     | 414.27       | 407.17     | 198.08     | 12.17            | 364480.42          | 596852.60         | N 32 0 6.88 W 104 9 15.27  | 9 15.27                   |
|               | 8067.12    | 90.45       | 0.04             | 7760.00     | 481.22       | 474.10     | 198.82     | 12.17            | 364547.34          | 596854.34         | N 32 0 7.54 W 104 9 15.25  | 9 15.25                   |
|               | 8100.00    | 90.45       | 0.04             | 7759.74     | 514.07       | 506.97     | 199.85     | 0.00             | 364580.21          | 596854.37         | N 32 0 7.86 W 104 9 15.25  | 9 15.25                   |
|               | 8200.00    | 90.45       | 0.04             | 7758.95     | 614.00       | 606.97     | 199.92     | 0.00             | 364680.20          | 596854.44         | N 32 0 8.85 W 104 9 15.25  | 9 15.25                   |
|               | 8300.00    | 90.45       | 0.04             | 7758.15     | 713.93       | 706.97     | 199.99     | 0.00             | 364780.19          | 596854.51         | N 32 0 9.84 W 104 9 15.24  | 9 15.24                   |
|               | 8400.00    | 90.45       | 0.04             | 7757.36     | 813.86       | 806.96     | 200.07     | 0.00             | 364880.18          | 596854.59         | N 32 0 10.83 W 104 9 15.24 | 9 15.24                   |
|               | 8500.00    | 90.45       | 0.04             | 7756.57     | 913.79       | 906.96     | 200.14     | 0.00             | 364980.16          | 596854.66         | N 32 0 11.82 W 104 9 15.24 | 9 15.24                   |
|               | 8600.00    | 90.45       | 0.04             | 7755.77     | 1013.72      | 1006.96    | 200.21     | 0.00             | 365080.15          | 596854.73         | N 32 0 12.81 W 104 9 15.23 | 9 15.23                   |
|               | 8700.00    | 90.45       | 0.04             | 7754.98     | 1113.65      | 1106.95    | 200.28     | 0.00             | 365180.14          | 596854.80         | N 32 0 13.80 W 104 9 15.23 | 9 15.23                   |
|               | 8800.00    | 90.45       | 0.04             | 7754.19     | 1213.58      | 1206.95    | 200.36     | 0.00             | 365280.13          | 596854.88         | N 32 0 14.79 W 104 9 15.23 | 9 15.23                   |
|               | 8900.00    | 90.45       | 0.04             | 7753.40     | 1313.51      | 1306.95    | 200.43     | 0.00             | 365380.12          | 596854.95         | N 32 0 15.78 W 104 9 15.23 | 9 15.23                   |
|               | 9000.00    | 90.45       | 0.04             | 7752.61     | 1413.44      | 1406.94    | 200.50     | 0.00             | 365480.10          | 596855.02         | N 32 0 16.77 W 104 9 15.22 | 9 15.22                   |
|               | 9100.00    | 90.45       | 0.04             | 7751.81     | 1513.37      | 1506.94    | 200.58     | 0.00             | 365580.09          | 596855.10         | N 32 0 17.76 W 104 9 15.22 | 9 15.22                   |
|               | 9200.00    | 90.45       | 0.04             | 7751.02     | 1613.30      | 1606.94    | 200.65     | 0.00             | 365680.08          | 596855.17         | N 32 0 18.75 W 104 9 15.22 | 9 15.22                   |
|               | 9300.00    | 90.45       | 0.04             | 7750.23     | 1713.23      | 1706.93    | 200.72     | 0.00             | 365780.07          | 596855.24         | N 32 0 19.74 W 104 9 15.22 | 9 15.22                   |
|               | 9400.00    | 90.45       | 0.04             | 7749.44     | 1813.16      | 1806.93    | 200.79     | 0.00             | 365880.06          | 596855.31         | N 32 0 20.73 W 104 9 15.21 | 9 15.21                   |
|               | 9500.00    | 90.45       | 0.04             | 7748.65     | 1913.09      | 1906.93    | 200.87     | 0.00             | 365980.04          | 596855.39         | N 32 0 21.72 W 104 9 15.21 | 9 15.21                   |
|               | 9600.00    | 90.45       | 0.04             | 7747.86     | 2013.02      | 2006.93    | 200.94     | 0.00             | 366080.03          | 596855.46         | N 32 0 22.71 W 104 9 15.21 | 9 15.21                   |
|               | 9700.00    | 90.45       | 0.04             | 7747.07     | 2112.95      | 2106.92    | 201.01     | 0.00             | 366180.02          | 596855.53         | N 32 0 23.70 W 104 9 15.20 | 9 15.20                   |
|               | 9800.00    | 90.45       | 0.04             | 7746.28     | 2212.88      | 2206.92    | 201.09     | 0.00             | 366280.01          | 596855.60         | N 32 0 24.69 W 104 9 15.20 | 9 15.20                   |
|               | 9900.00    | 90.45       | 0.04             | 7745.49     | 2312.81      | 2306.92    | 201.16     | 0.00             | 366380.00          | 596855.68         | N 32 0 25.68 W 104 9 15.20 | 9 15.20                   |
|               | 10000.00   | 90.45       | 0.04             | 7744.70     | 2412.74      | 2406.91    | 201.23     | 0.00             | 366479.98          | 596855.75         | N 32 0 26.67 W 104 9 15.20 | 9 15.20                   |
|               | 10100.00   | 90.45       | 0.04             | 7743.91     | 2512.67      | 2506.91    | 201.30     | 0.00             | 366579.97          | 596855.82         | N 32 0 27.65 W 104 9 15.19 | 9 15.19                   |
|               | 10200.00   | 90.45       | 0.04             | 7743.12     | 2612.60      | 2606.91    | 201.38     | 0.00             | 366679.96          | 596855.90         | N 32 0 28.64 W 104 9 15.19 | 9 15.19                   |
|               | 10300.00   | 90.45       | 0.04             | 7742.33     | 2712.53      | 2706.90    | 201.45     | 0.00             | 366779.95          | 596855.97         | N 32 0 29.63 W 104 9 15.19 | 9 15.19                   |
|               | 10400.00   | 90.45       | 0.04             | 7741.54     | 2812.46      | 2806.90    | 201.52     | 0.00             | 366879.94          | 596856.04         | N 32 0 30.62 W 104 9 15.18 | 9 15.18                   |
|               | 10500.00   | 90.45       | 0.04             | 7740.75     | 2912.39      | 2906.90    | 201.59     | 0.00             | 366979.92          | 596856.11         | N 32 0 31.61 W 104 9 15.18 | 9 15.18                   |
|               | 10600.00   | 90.45       | 0.04             | 7739.96     | 3012.32      | 3006.89    | 201.67     | 0.00             | 367079.91          | 596856.19         | N 32 0 32.60 W 104 9 15.18 | 9 15.18                   |
|               | 10700.00   | 90.45       | 0.04             | 7739.17     | 3112.25      | 3106.89    | 201.74     | 0.00             | 367179.90          | 596856.26         | N 32 0 33.59 W 104 9 15.18 | 9 15.18                   |
|               | 10800.00   | 90.45       | 0.04             | 7738.38     | 3212.18      | 3206.89    | 201.81     | 0.00             | 367279.89          | 596856.33         | N 32 0 34.58 W 104 9 15.17 | 9 15.17                   |
|               | 10900.00   | 90.45       | 0.04             | 7737.60     | 3312.11      | 3306.88    | 201.89     | 0.00             | 367379.87          | 596856.41         | N 32 0 35.57 W 104 9 15.17 | 9 15.17                   |
|               | 11000.00   | 90.45       | 0.04             | 7736.81     | 3412.04      | 3406.88    | 201.96     | 0.00             | 367479.86          | 596856.48         | N 32 0 36.56 W 104 9 15.17 | 9 15.17                   |
|               | 11100.00   | 90.45       | 0.04             | 7736.02     | 3511.97      | 3506.88    | 202.03     | 0.00             | 367579.85          | 596856.55         | N 32 0 37.55 W 104 9 15.17 | 9 15.17                   |
|               | 11200.00   | 90.45       | 0.04             | 7735.23     | 3611.90      | 3606.87    | 202.10     | 0.00             | 367679.84          | 596856.62         | N 32 0 38.54 W 104 9 15.16 | 9 15.16                   |
|               | 11300.00   | 90.45       | 0.04             | 7734.44     | 3711.83      | 3706.87    | 202.18     | 0.00             | 367779.83          | 596856.70         | N 32 0 39.53 W 104 9 15.16 | 9 15.16                   |
|               | 11400.00   | 90.45       | 0.04             | 7733.66     | 3811.76      | 3806.87    | 202.25     | 0.00             | 367879.81          | 596856.77         | N 32 0 40.52 W 104 9 15.16 | 9 15.16                   |
|               | 11500.00   | 90.45       | 0.04             | 7732.87     | 3911.69      | 3906.87    | 202.32     | 0.00             | 367979.80          | 596856.84         | N 32 0 41.51 W 104 9 15.15 | 9 15.15                   |
|               | 11600.00   | 90.45       | 0.04             | 7732.08     | 4011.62      | 4006.86    | 202.39     | 0.00             | 368079.79          | 596856.91         | N 32 0 42.50 W 104 9 15.15 | 9 15.15                   |
|               | 11700.00   | 90.45       | 0.04             | 7731.30     | 4111.55      | 4106.86    | 202.47     | 0.00             | 368179.78          | 596856.99         | N 32 0 43.49 W 104 9 15.15 | 9 15.15                   |
|               | 11800.00   | 90.45       | 0.04             | 7730.51     | 4211.48      | 4206.86    | 202.54     | 0.00             | 368279.77          | 596857.06         | N 32 0 44.48 W 104 9 15.15 | 9 15.15                   |
|               | 11900.00   | 90.45       | 0.04             | 7729.72     | 4311.41      | 4306.85    | 202.61     | 0.00             | 368379.75          | 596857.13         | N 32 0 45.47 W 104 9 15.14 | 9 15.14                   |
|               | 12000.00   | 90.45       | 0.04             | 7728.94     | 4411.34      | 4406.85    | 202.69     | 0.00             | 368479.74          | 596857.21         | N 32 0 46.46 W 104 9 15.14 | 9 15.14                   |
|               | 12100.00   | 90.45       | 0.04             | 7728.15     | 4511.27      | 4506.85    | 202.76     | 0.00             | 368579.73          | 596857.28         | N 32 0 47.45 W 104 9 15.14 | 9 15.14                   |
|               | 12200.00   | 90.45       | 0.04             | 7727.36     | 4611.20      | 4606.84    | 202.83     | 0.00             | 368679.72          | 596857.35         | N 32 0 48.43 W 104 9 15.13 | 9 15.13                   |
|               | 12300.00   | 90.45       | 0.04             | 7726.58     | 4711.13      | 4706.84    | 202.90     | 0.00             | 368779.71          | 596857.42         | N 32 0 49.42 W 104 9 15.13 | 9 15.13                   |
|               | 12400.00   | 90.45       | 0.04             | 7725.79     | 4811.06      | 4806.84    | 202.98     | 0.00             | 368879.69          | 596857.50         | N 32 0 50.41 W 104 9 15.13 | 9 15.13                   |
|               | 12500.00   | 90.45       | 0.04             | 7725.01     | 4910.99      | 4906.83    | 203.05     | 0.00             | 368979.68          | 596857.57         | N 32 0 51.40 W 104 9 15.13 | 9 15.13                   |
|               | 12600.00   | 90.45       | 0.04             | 7724.22     | 5010.92      | 5006.83    | 203.12     | 0.00             | 369079.67          | 596857.64         | N 32 0 52.39 W 104 9 15.12 | 9 15.12                   |
|               | 12700.00   | 90.45       | 0.04             | 7723.44     | 5110.85      | 5106.83    | 203.19     | 0.00             | 369179.66          | 596857.71         | N 32 0 53.38 W 104 9 15.12 | 9 15.12                   |
|               | 12800.00   | 90.45       | 0.04             | 7722.65     | 5210.78      | 5206.82    | 203.27     | 0.00             | 369279.65          | 596857.79         | N 32 0 54.37 W 104 9 15.12 | 9 15.12                   |
|               | 12900.00   | 90.45       | 0.04             | 7721.87     | 5310.71      | 5306.82    | 203.34     | 0.00             | 369379.63          | 596857.86         | N 32 0 55.36 W 104 9 15.12 | 9 15.12                   |
|               | 13000.00   | 90.45       | 0.04             | 7721.08     | 5410.64      | 5406.82    | 203.41     | 0.00             | 369479.62          | 596857.93         | N 32 0 56.35 W 104 9 15.11 | 9 15.11                   |
|               | 13100.00   | 90.45       | 0.04             | 7720.30     | 5510.57      | 5506.82    | 203.48     | 0.00             | 369579.61          | 596858.00         | N 32 0 57.34 W 104 9 15.11 | 9 15.11                   |
|               | 13200.00   | 90.45       | 0.04             | 7719.52     | 5610.50      | 5606.81    | 203.56     | 0.00             | 369679.60          | 596858.08         | N 32 0 58.33 W 104 9 15.11 | 9 15.11                   |
|               | 13300.00   | 90.45       | 0.04             | 7718.73     | 5710.43      | 5706.81    | 203.63     | 0.00             | 369779.59          | 596858.15         | N 32 0 59.32 W 104 9 15.10 | 9 15.10                   |
|               | 13400.00   | 90.45       | 0.04             | 7717.95     | 5810.36      | 5806.80    | 203.70     | 0.00             | 369879.57          | 596858.22         | N 32 1 0.31 W 104 9 15.10  | 9 15.10                   |
|               | 13500.00   | 90.45       | 0.04             | 7717.16     | 5910.29      | 5906.81    | 203.78     | 0.00             | 369979.56          | 596858.30         | N 32 1 1.30 W 104 9 15.10  | 9 15.10                   |
|               | 13600.00   | 90.45       | 0.04             | 7716.38     | 6010.22      | 6006.80    | 203.85     | 0.00             | 370079.55          | 596858.37         | N 32 1 2.29 W 104 9 15.10  | 9 15.10                   |

| Comments                                                                 | MD<br>(ft) | Incl<br>(°) | Azim Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(RUS) | Easting<br>(RUS) | Latitude<br>(N/S ° ' ")    | Longitude<br>(E/W ° ' ") |
|--------------------------------------------------------------------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|-------------------|------------------|----------------------------|--------------------------|
|                                                                          | 13700.00   | 90.45       | 0.04             | 7715.60     | 6110.15      | 6106.80    | 203.92     | 0.00             | 370179.54         | 596858.44        | N 32 1 3.28 W 104 9 15.09  |                          |
|                                                                          | 13800.00   | 90.45       | 0.04             | 7714.81     | 6210.08      | 6206.79    | 203.99     | 0.00             | 370279.53         | 596858.51        | N 32 1 4.27 W 104 9 15.09  |                          |
|                                                                          | 13900.00   | 90.45       | 0.04             | 7714.03     | 6310.01      | 6306.79    | 204.07     | 0.00             | 370379.51         | 596858.59        | N 32 1 5.26 W 104 9 15.09  |                          |
|                                                                          | 14000.00   | 90.45       | 0.04             | 7713.25     | 6409.94      | 6406.79    | 204.14     | 0.00             | 370479.50         | 596858.66        | N 32 1 6.25 W 104 9 15.08  |                          |
|                                                                          | 14100.00   | 90.45       | 0.04             | 7712.47     | 6509.87      | 6506.78    | 204.21     | 0.00             | 370579.49         | 596858.73        | N 32 1 7.24 W 104 9 15.08  |                          |
|                                                                          | 14200.00   | 90.45       | 0.04             | 7711.69     | 6609.80      | 6606.78    | 204.28     | 0.00             | 370679.48         | 596858.80        | N 32 1 8.23 W 104 9 15.08  |                          |
|                                                                          | 14300.00   | 90.45       | 0.04             | 7710.90     | 6709.73      | 6706.78    | 204.36     | 0.00             | 370779.47         | 596858.88        | N 32 1 9.21 W 104 9 15.08  |                          |
|                                                                          | 14400.00   | 90.45       | 0.04             | 7710.12     | 6809.66      | 6806.78    | 204.43     | 0.00             | 370879.45         | 596858.95        | N 32 1 10.20 W 104 9 15.07 |                          |
| Cimarex<br>Hornsby 35<br>Federal Com<br>10H PBHL [330'<br>FNL, 600' FEL] | 14415.51   | 90.45       | 0.04             | 7710.00     | 6825.16      | 6822.28    | 204.44     | 0.00             | 370894.96         | 596858.96        | N 32 1 10.36 W 104 9 15.07 |                          |

Survey Type: Non-Def Plan

Survey Error Model: ISWWSA Rev 0 \*\*\* 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

| Description | Part | MD From<br>(ft) | MD To<br>(ft) | EOU Freq<br>(ft) | Hole Size<br>(in) | Casing<br>Diameter<br>(in) | Expected Max<br>Inclination<br>(deg) | Survey Tool Type | Borehole / Survey                                         |
|-------------|------|-----------------|---------------|------------------|-------------------|----------------------------|--------------------------------------|------------------|-----------------------------------------------------------|
|             | 1    | 0.000           | 14415.509     | 1/100.000        | 30.000            | 30.000                     |                                      | SLB_MWD-STD      | Original Borehole / Cimarex<br>Hornsby 35 Federal Com 10H |