

HOBBS OCD

DEC 20 2012

OCD Hobbs  
RECEIVED

FORM APPROVED  
OMB No. 1004-0137  
Expires October 31, 2014

ATS-12-654

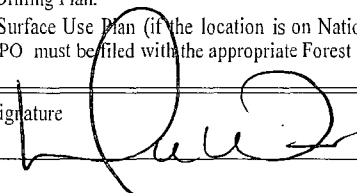
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

|                                                                                                                                                                                                                             |  |                                                                                                                   |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------|--|
| 1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER                                                                                                                                |  | 5. Lease Serial No.<br>LC062749-1 (BHL) (SAL LC068281B)                                                           |  |
| 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone      |  | 6. If Indian, Allottee or Tribe Name<br>N/A                                                                       |  |
| 2. Name of Operator<br>ConocoPhillips Company                                                                                                                                                                               |  | 7. If Unit or CA Agreement, Name and No.<br>N/A                                                                   |  |
| 3a. Address<br>P.O. Box 51810<br>Midland, Tx 79710                                                                                                                                                                          |  | 8. Lease Name and Well No.<br>Buck 17 Federal Conn #3H                                                            |  |
| 3b. Phone No. (include area code)<br>432-688-6943                                                                                                                                                                           |  | 9. API Well No.<br>3D-025-40900                                                                                   |  |
| 4. Location of Well (Report location clearly and in accordance with any State requirements.)<br>At surface 10 FNL & 2625 FEL (NWNE) 20-26S-32E Unit B<br>At proposed prod. zone 330 FNL & 2310 FWL (NENW) 17-26S-32E Unit C |  | 10. Field and Pool or Exploratory<br>Dennings Red Hills, Belle Spring Upper shale                                 |  |
| 11. Sec., T. R. M. or Blk. and Survey or Area<br>Section 20-26S-32E (Surface)                                                                                                                                               |  | 12. County or Parish<br>Lea                                                                                       |  |
| 13. State<br>NM                                                                                                                                                                                                             |  | 14. Distance in miles and direction from nearest town or post office*<br>30 miles south/west of Jal, NM           |  |
| 15. Distance from proposed* location to nearest property or lease line, ft.<br>(Also to nearest drig. unit line, if any)<br>330                                                                                             |  | 16. No. of acres in lease<br>640                                                                                  |  |
| 17. Spacing Unit dedicated to this well<br>160                                                                                                                                                                              |  | 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.<br>325 |  |
| 19. Proposed Depth<br>14046 MD/9252 TVD                                                                                                                                                                                     |  | 20. BLM/BIA Bond No. on file<br>ES0085                                                                            |  |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br>3176 GL                                                                                                                                                              |  | 22. Approximate date work will start*<br>09/01/2012                                                               |  |
| 23. Estimated duration<br>30 days                                                                                                                                                                                           |  | 24. Attachments                                                                                                   |  |

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- |                                                                                                                                                |                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Well plat certified by a registered surveyor.                                                                                               | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.                                                                                                                            | 5. Operator certification                                                                       |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM.             |

|                                                                                                      |                                        |                    |
|------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------|
| 25. Signature<br> | Name (Printed/Typed)<br>Donna Williams | Date<br>08/13/2012 |
|------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------|

Title  
Sr. Regulatory Advisor

|                                                |                                             |                     |
|------------------------------------------------|---------------------------------------------|---------------------|
| Approved by (Signature)<br>/s/George MacDonell | Name (Printed/Typed)<br>/s/George MacDonell | Date<br>DEC 18 2012 |
|------------------------------------------------|---------------------------------------------|---------------------|

|                                |                         |
|--------------------------------|-------------------------|
| Title<br>CARLSBAD FIELD OFFICE | Office<br>FIELD MANAGER |
|--------------------------------|-------------------------|

Application approval 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.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

\*(Instructions on page 2)

Carlsbad Controlled Water Basin

Ka  
12/20/12

Approval Subject to General Requirements  
& Special Stipulations Attached

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

JAN 08 2013

dm

**OPERATORS NAME:** ConocoPhillips Company

**LEASE NAME AND WELL NO.:** Buck Federal 17 # 3H

**SURFACE LOCATION:** 10 FNL & 2625 FEL (NWNE) 20-26S-32E

**CASING POINT:** 750.6 FSL & 2212.2 FWL (SESW) 17-26S-32E

**BHL:** 330 FNL & 2310 FWL (NENW) 17-26S-32E

**FIELD NAME:** Red Hills; Bone Spring

**POOL NAME:** Bone Spring/Avalon

**COUNTY:** Lea County, New Mexico

Federal Surface/Federal Minerals LC062749-B

The following information is to supplement the Application for Permit to Drill.

### DRILLING PLAN

1. Name and estimated tops of all geologic groups, formations, members, or zones.(TVD)

|                                               |         |               |
|-----------------------------------------------|---------|---------------|
| Quaternary                                    | Surface | Water         |
| Rustler                                       | 1024    | Salt          |
| Castille                                      | 2394    | Salt          |
| Delaware Top                                  | 4328    | Oil/gas/water |
| Ramsey                                        | 4362    | Oil/gas/water |
| Ford Shale                                    | 4420    | Oil/gas/water |
| Olds                                          | 4432    | Oil/gas/water |
| Cherry Canyon Lower Top                       | 6082    | Oil/gas/water |
| Bone Spring                                   | 8095    | Oil/gas/water |
| Bone Spring 1 <sup>st</sup> Carbonate         | 8309    | Oil/gas/water |
| Base of Bone Spring 1 <sup>st</sup> Carbonate | 8405    | Oil/gas/water |
| KOP (estimate)                                | 8450    |               |
| Avalon A Shale Top                            | 8715    | Oil/gas/water |
| Avalon B Zone Top                             | 8952    | Oil/gas/water |
| Avalon C Shale Top                            | 9102    | Oil/gas/water |
| Avalon Target                                 | N/A     | Oil/gas/water |

2. Estimated depths and thickness of formations, members or zones potentially containing usable water, oil, gas, or prospectively valuable deposits of other minerals that the operator expects to encounter, and the operator's plans for protecting such resources.

Quaternary Surface-1037 (water)  
Rustler & Castile 1024-4328' (salt)

All of the water bearing formations identified above will be protected by the intermediate setting of the 9 5/8" casing and circulating of cement to surface

Delaware

4328-8095 (oil/gas/water)

The prospective formation identified will be protected by the intermediate setting of the 7" casing and tying the cement into the 9 5/8" casing

Bone Spring

8095-9102 (oil/gas/water)

The geologic tops identified above from the top of the Bone Spring/Avalon are part of the target formation

3. The operator's minimum specifications for blowout prevention equipment and diverter systems to be used, including size, pressure rating, configuration, and the testing procedure and frequency.

A 5000# system will be installed, used, maintained, and tested accordingly. After nipping up, and every 30 days thereafter, preventors will be pressure tested. BOP will be inspected and operated at least daily to insure good working order. All pressure and operating tests will be recorded on the daily drilling reports. Ram Type preventors will be tested to rated working pressure or 70% of the minimum internal yield of the casing. Annular type preventer(s) shall be tested to 50% of the approved BOP stack working pressure. Pressure shall be maintained at least 10 minutes or until provisions of test are met, whichever is longer. Pursuant to Onshore Oil and Gas Order No. 2, the BOP equipment for a 5M system or greater shall include lower Kelly cock valve with handle available, safety valves and subs to fit all drill string connections in use and inside BOP or float sub shall be available. All choke lines from the drilling spool forward shall meet the requirements of the Onshore Order 2 as specified. **See Attached BOPE Schematic**

4. The proposed casing program including size, grade, weights, type of thread and coupling, and the setting depth of each string and its condition (new or acceptably reconditioned). For exploratory wells, or for wells as otherwise specified by the authorized officer, the operator shall include the minimum design factors for tensions, burst, and collapse that are incorporated into the casing design. In cases where tapered casing strings are utilized, the operator shall also include and/or setting depths of each portion.

NEW CASING:

Surface: 17 1/2" hole, 13 3/8" 54.5# J55 STC csg, set @ 1055'. Drill out with 12 1/4" bit and perform shoe test to 11.0 ppg MWE.

Burst: 2.37/Collapse: 4.92/Tension: 2.57

Intermediate 1: 12 1/4" hole, 9 5/8" 36# J55 LTC csg, set @ 4350

Burst: 2.88/Collapse: 2.62/Tension: 4.74

(This string of casing would not be subject to the production collapse load case of being pumped off to zero pressure on the inside by beam pump or ESP production pumping the fluid level down. The 9 5/8" casing would be isolated

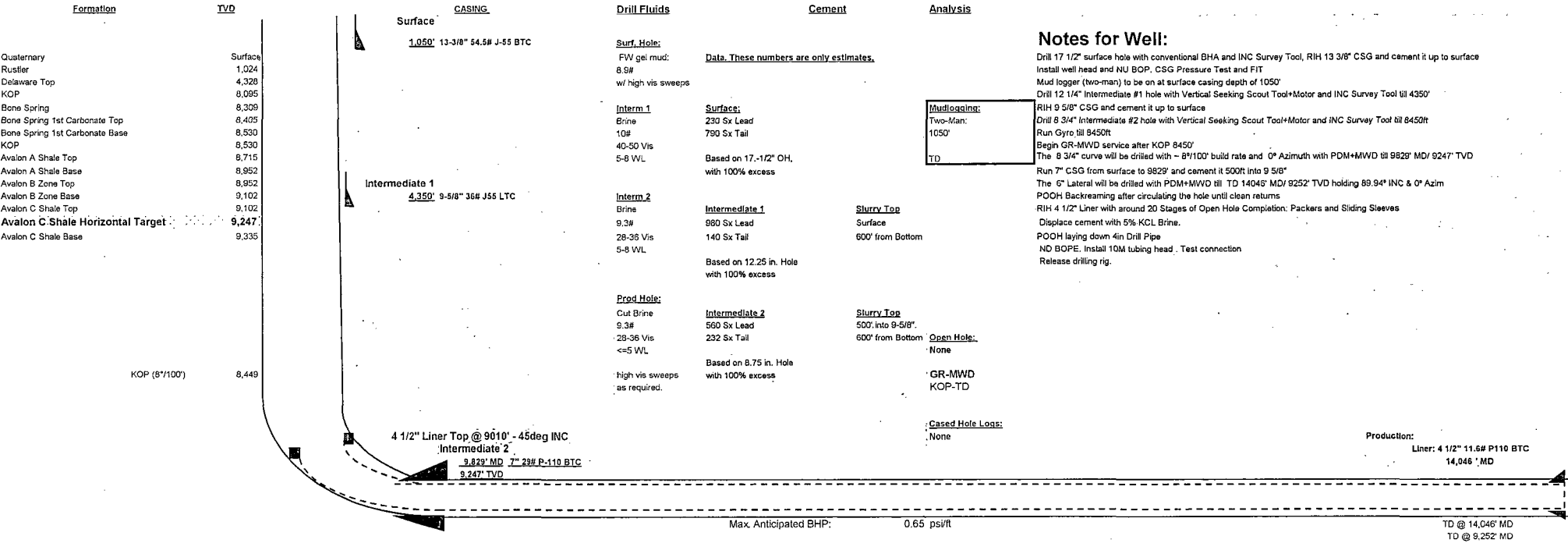
# DRILLING PLAN

|                                  |                                                                                                                                            |                    |                                                    |                                  |                      |         |         |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------|----------------------------------|----------------------|---------|---------|
| PROSPECT/FIELD                   | Bonespring/Red Hills                                                                                                                       |                    | COUNTY/STATE                                       |                                  | Lea County, NM       |         |         |
| OWNERS                           | ConocoPhillips                                                                                                                             |                    | LEASE                                              |                                  |                      |         |         |
| WELL NO.                         | Buck Federal 17 3H                                                                                                                         | FNL                | FSL                                                | FEL                              | FWL                  |         |         |
| LOCATION                         | Surface Location:                                                                                                                          | 10                 |                                                    | 2625                             |                      |         |         |
|                                  | Bottom Hole Location:                                                                                                                      | 330                |                                                    | 2543                             |                      |         |         |
| EST. T.D.                        | Leg #1 14,046' MD                                                                                                                          | GROUND ELEV.       |                                                    | 3,176' (est)                     |                      |         |         |
| PROGNOSIS:                       | Based on 3,192' KB(est)                                                                                                                    |                    | LOGS: Type Interval                                |                                  |                      |         |         |
| MARKER                           | S.S. DEPTH                                                                                                                                 | TVD                | Open Hole: GR-MWD KOP-TD                           |                                  |                      |         |         |
| Quaternary                       |                                                                                                                                            | Surface            |                                                    |                                  |                      |         |         |
| Rustler                          | 1,024                                                                                                                                      | 1,024              |                                                    |                                  |                      |         |         |
| Delaware Top                     | -1136                                                                                                                                      | 4,328              |                                                    |                                  |                      |         |         |
| Bone Spring                      | -4903                                                                                                                                      | 8,095              |                                                    |                                  |                      |         |         |
| Bone Spring 1st Carbonate Top    | -5117                                                                                                                                      | 8,309              |                                                    |                                  |                      |         |         |
| Bone Spring 1st Carbonate Base   | -5213                                                                                                                                      | 8,405              |                                                    |                                  |                      |         |         |
| KOP                              |                                                                                                                                            | 8,530              | DEVIATION:                                         |                                  |                      |         |         |
| Avalon A Shale Top               | -5523                                                                                                                                      | 8,715              | Surf: 3" max, svy every 500'                       |                                  |                      |         |         |
| Avalon A Shale Base              | -5760                                                                                                                                      | 8,952              | Int #1/2: 3" max, svy every 90'                    |                                  |                      |         |         |
| Avalon B Zone Top                | -5760                                                                                                                                      | 8,952              | Interm #2 Curve: 90", svy every 30'                |                                  |                      |         |         |
| Avalon B Zone Base               | -5910                                                                                                                                      | 9,102              | Prod Lateral: 90", svy every 30'                   |                                  |                      |         |         |
| Avalon C Shale Top               | -5910                                                                                                                                      | 9,102              | DST'S:                                             |                                  |                      |         |         |
| Avalon C Shale Horizontal Target | -6055                                                                                                                                      | 9,247              |                                                    |                                  |                      |         |         |
| Avalon C Shale Base              | -6143                                                                                                                                      | 9,335              | CORES:                                             |                                  |                      |         |         |
|                                  |                                                                                                                                            |                    | No core.                                           |                                  |                      |         |         |
|                                  |                                                                                                                                            |                    | SAMPLES:                                           |                                  |                      |         |         |
|                                  |                                                                                                                                            |                    | Mudlogging: Start End                              |                                  |                      |         |         |
|                                  |                                                                                                                                            |                    | Two-Man: 1050' TD Vertical and Horizontal sections |                                  |                      |         |         |
|                                  |                                                                                                                                            |                    | BOP:                                               |                                  |                      |         |         |
|                                  |                                                                                                                                            |                    | COP Category 3 Well Control Requirements           |                                  |                      |         |         |
|                                  |                                                                                                                                            |                    | Precision 827 BOPE: 13-5/8"-5Mpsi Annular          |                                  |                      |         |         |
|                                  |                                                                                                                                            |                    | (With Rotating Head) 13-3/8"-5Mpsi Blind Ram       |                                  |                      |         |         |
|                                  |                                                                                                                                            |                    | 13-3/8"-5Mpsi Cross / Choke & Kill Lines           |                                  |                      |         |         |
|                                  |                                                                                                                                            |                    | 13-3/8"-5M psi Pipe Ram                            |                                  |                      |         |         |
|                                  |                                                                                                                                            |                    | 13-3/8"-5Mpsi Spacer Spool                         |                                  |                      |         |         |
| Dip Rate:                        | (See inclination prediction)                                                                                                               |                    |                                                    |                                  |                      |         |         |
| Max. Anticipated BHP:            | 0.65 psi/ft                                                                                                                                |                    | Surface Formation:                                 |                                  |                      |         |         |
| MUD:                             | Interval                                                                                                                                   | Type               | Max. MW                                            | Vis                              | WL                   | Remarks |         |
| Surface:                         | 0'-1050'                                                                                                                                   | Aquagel - Spud Mud | 8.9                                                | 32-36                            | NC                   |         |         |
| Intermediate 1:                  | 1050'-4350'                                                                                                                                | Brine              | 10                                                 | 28-30                            | 5-8                  |         |         |
| Intermediate 2:                  | 4350'-9829'                                                                                                                                | Brine              | 9.3                                                | 28-30                            | 5-8                  |         |         |
| Production:                      | 9829'-13982'                                                                                                                               | Cut Brine          | 9.3                                                | 30-40                            | <=5                  |         |         |
| CASING:                          | Size                                                                                                                                       | Wt ppf             | Hole                                               | Depth                            | Cement               | WOC     | Remarks |
| Surface:                         | 13-3/8"                                                                                                                                    | 54.5               | 17-1/2                                             | 1,050'                           | To Surface           | 18hrs   |         |
| Intermediate 1:                  | 9-5/8"                                                                                                                                     | 36                 | 12-1/4"                                            | 4,350'                           | To Surface           | 18hrs   |         |
| Intermediate 2:                  | 7"                                                                                                                                         | 29                 | 8 3/4"                                             | 9,829'                           | 500' into the 9-5/8" | 18hrs   |         |
| Production Lat #1:               | 4 1/2"                                                                                                                                     | 11.6               | 6"                                                 | 14,046'                          | Packers and Sleeves  | N/A     | Liner   |
| DIRECTIONAL PLAN                 | MD                                                                                                                                         | TVD                | AZ                                                 |                                  |                      |         |         |
| Surface:                         | N/A                                                                                                                                        | N/A                | 0                                                  | Directional Company: DDC         |                      |         |         |
| Vertical KOP:                    | 8,449'                                                                                                                                     | 8,449'             | 0.0                                                | Vertical Build Rate: 8.0 ' /100' |                      |         |         |
| End Build/ 7"Casing (90° curve): | 9,829'                                                                                                                                     | 9,247'             | 0.0                                                | Tan Leg Turn Rate: 0.0 ' /100'   |                      |         |         |
| Tangent:                         | N/A                                                                                                                                        | N/A                | 0.0                                                |                                  |                      |         |         |
| Turn:                            | N/A                                                                                                                                        | N/A                | 0.0                                                |                                  |                      |         |         |
| TD:                              | 14,046'                                                                                                                                    | 9,252'             | 0.0                                                |                                  |                      |         |         |
| Comments:                        | Surveys will be taken with INC Survey Tool below surface casing while drilling with PDC + Scout Vertical Seeking Tool + Straight Motor BHA |                    |                                                    |                                  |                      |         |         |
| Prep By:                         | Katia Filina                                                                                                                               | Date:              | 7/25/12                                            | Doc:                             | REV.2                |         |         |

| Buck Federal 17 3H Proposed Tops                       |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 | GL 3,176             | KB 16'          | 3,192                                               |                      |
|--------------------------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------|-----------------|-----------------------------------------------------|----------------------|
|                                                        |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 | (via survey plat)    |                 |                                                     |                      |
| Notes:                                                 |                     | No pilot hole will be drilled. This horizontal well will be drilled from S to N into the Avalon C Shale Zone. The surface location will be located 10' into section 20 and TD'd in the northern portion of section 17. The surface location will require that the well be drilled "3D", with the borehole drilled initially NW and then curved north in order to place the lateral portion of the borehole within the Avalon C 160 acre spacing window. The well will be drilled slightly toe down with a ~4,475' long lateral. |                 |                      |                 |                                                     |                      |
| Surface Location                                       |                     | Sec 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | T26S            | R32E                 |                 | Lea Co. NM, Surface Location: 10' FNL & 2,625' FEL  |                      |
| Bottom Hole Location                                   |                     | Sec 17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | T26S            | R32E                 |                 | Lea Co. NM, Terminus Location: 330' FNL & 2310' FWL |                      |
| Formation Name                                         | Formation Top (TVD) | Subsea Depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Gross Thickness | Gross Thickness      | Gross Thickness | Comments                                            |                      |
| Quaternary                                             | Surface             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |                      |                 |                                                     |                      |
| Rustler                                                | 1,024               | 2,168                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |                      |                 |                                                     |                      |
| Castile                                                | 2,394               | 798                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |                      |                 |                                                     |                      |
| Delaware Top                                           | 4,328               | -1,136                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                      |                 |                                                     |                      |
| Ramsey                                                 | 4,362               | -1,170                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                      |                 |                                                     |                      |
| Ford Sh                                                | 4,420               | -1,228                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                      |                 |                                                     |                      |
| Olds                                                   | 4,432               | -1,240                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                      |                 |                                                     |                      |
| Cherry Canyon Lower Top                                | 6,082               | -2,890                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                      |                 |                                                     |                      |
| Bone Spring Top                                        | 8,095               | -4,903                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                      |                 |                                                     |                      |
| Bone Spring 1st Carbonate Top                          | 8,309               | -5,117                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 96              |                      |                 |                                                     |                      |
| Bone Spring 1st Carbonate Base                         | 8,405               | -5,213                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                      |                 |                                                     |                      |
| KOP (est)                                              | 8,450               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |                      |                 |                                                     |                      |
| Avalon A Shale Top                                     | 8,715               | -5,523                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 237             |                      | 620             |                                                     |                      |
| Avalon A Shale Base                                    | 8,952               | -5,760                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                      |                 |                                                     |                      |
| Avalon B Zone Top                                      | 8,952               | -5,760                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 150             |                      |                 |                                                     |                      |
| Avalon B Zone Base                                     | 9,102               | -5,910                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                      |                 |                                                     |                      |
| Avalon C Shale Top                                     | 9,102               | -5,910                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                      |                 |                                                     |                      |
| LANDING: Avalon C Shale Horizontal Upper Target Limit  |                     | 9,222                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -6,030          | 233                  |                 | Not a formation top.                                |                      |
| LANDING: Avalon C Shale Horizontal Target Center       |                     | 9,247                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -6,055          |                      |                 | 50                                                  | Not a formation top. |
| LANDING: Avalon C Shale Horizontal Lower Target Limit  |                     | 9,272                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -6,080          |                      |                 |                                                     | Not a formation top. |
| TERMINUS: Avalon C Shale Horizontal Upper Target Limit |                     | 9,227                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -6,035          |                      |                 | 50                                                  | Not a formation top. |
| TERMINUS: Avalon C Shale Horizontal Target Center      |                     | 9,252                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -6,060          | Not a formation top. |                 |                                                     |                      |
| TERMINUS: Avalon C Shale Horizontal Lower Target Limit |                     | 9,277                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -6,085          | Not a formation top. |                 |                                                     |                      |
| Avalon C Shale Base (Should not penetrate)             |                     | 9,335                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -6,143          |                      |                 |                                                     |                      |
| Proposed total MD of well ~13,600'.                    |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |                      |                 |                                                     |                      |

|                    |         |                      |         |
|--------------------|---------|----------------------|---------|
| Buck Federal 17 3H |         |                      |         |
| Surface Location:  |         | Bottom Hole Location |         |
| 10FNL              | 2625FEL | FSL                  | 2543FEL |

|                                   |         |        |         |         |       |     |
|-----------------------------------|---------|--------|---------|---------|-------|-----|
| Directional:                      | MD      | TVD    | FNL/FSL | FEL/FWL | S-T-R | AZI |
| Vertical KOP :                    | 8449    | 8449   | 0       | 0       | 0     | 0   |
| End Build/ 7" Casing (90° curve): | 9,829'  | 9,247' | 0       | 0       | 0     | 0.0 |
| Tangent:                          | N/A     | N/A    | 0       | 0       | 0     | 0.0 |
| Turn:                             | N/A     | N/A    | 0       | 0       | 0     | 0.0 |
| TD:                               | 14,046' | 9,252' | 0       | 0       | 0     | 0.0 |



Vick Harvey  
Geologist

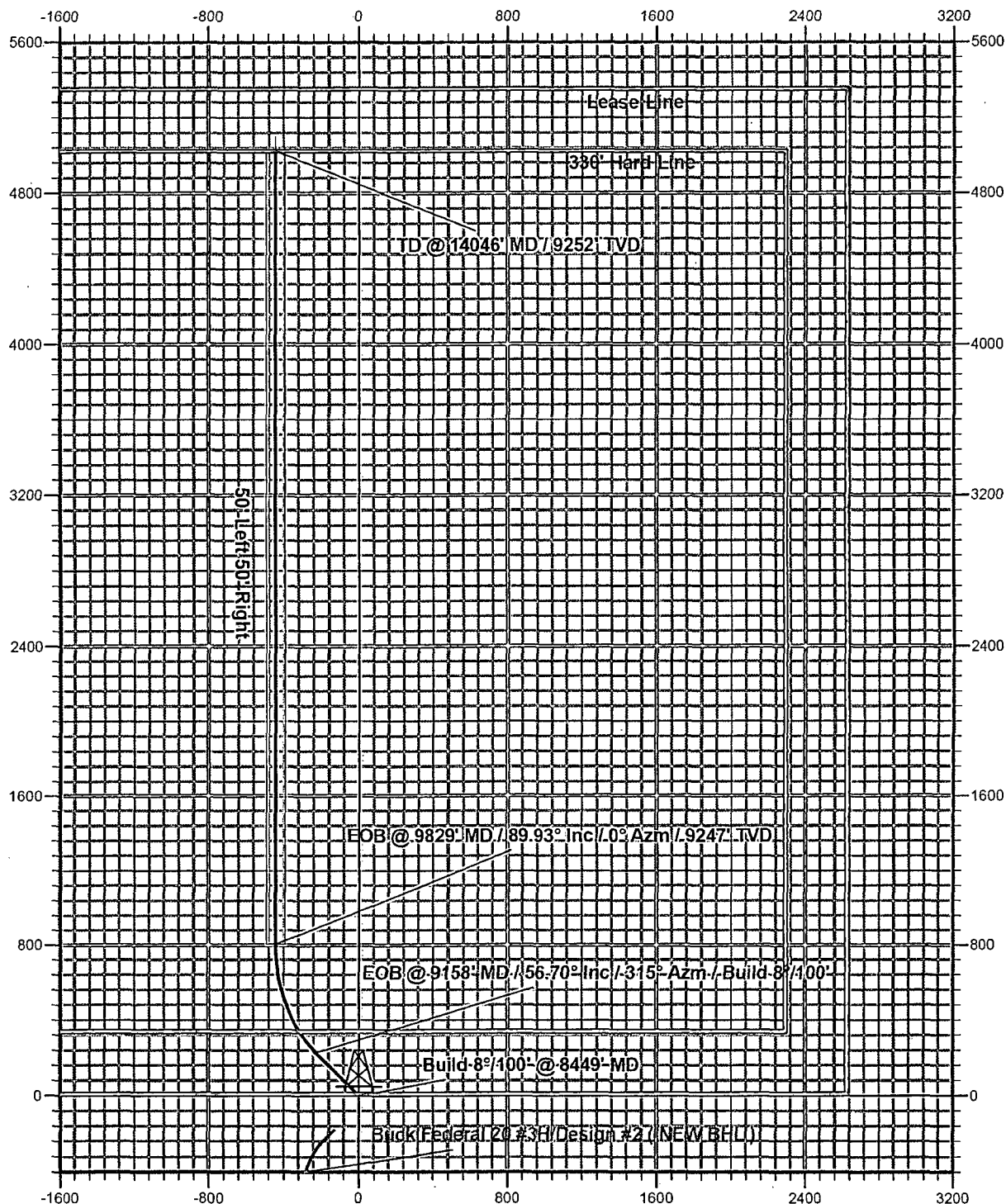
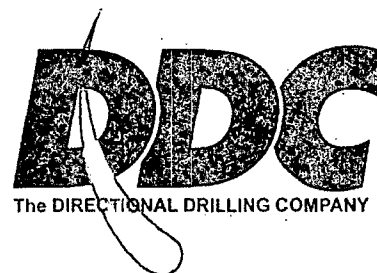
Date  
7/25/2012

Katia Filina  
Drilling Engineer

Date  
7/25/2012

ConocoPhillips

Lea County, New Mexico  
Buck Federal 17 #3H  
Quote 120459

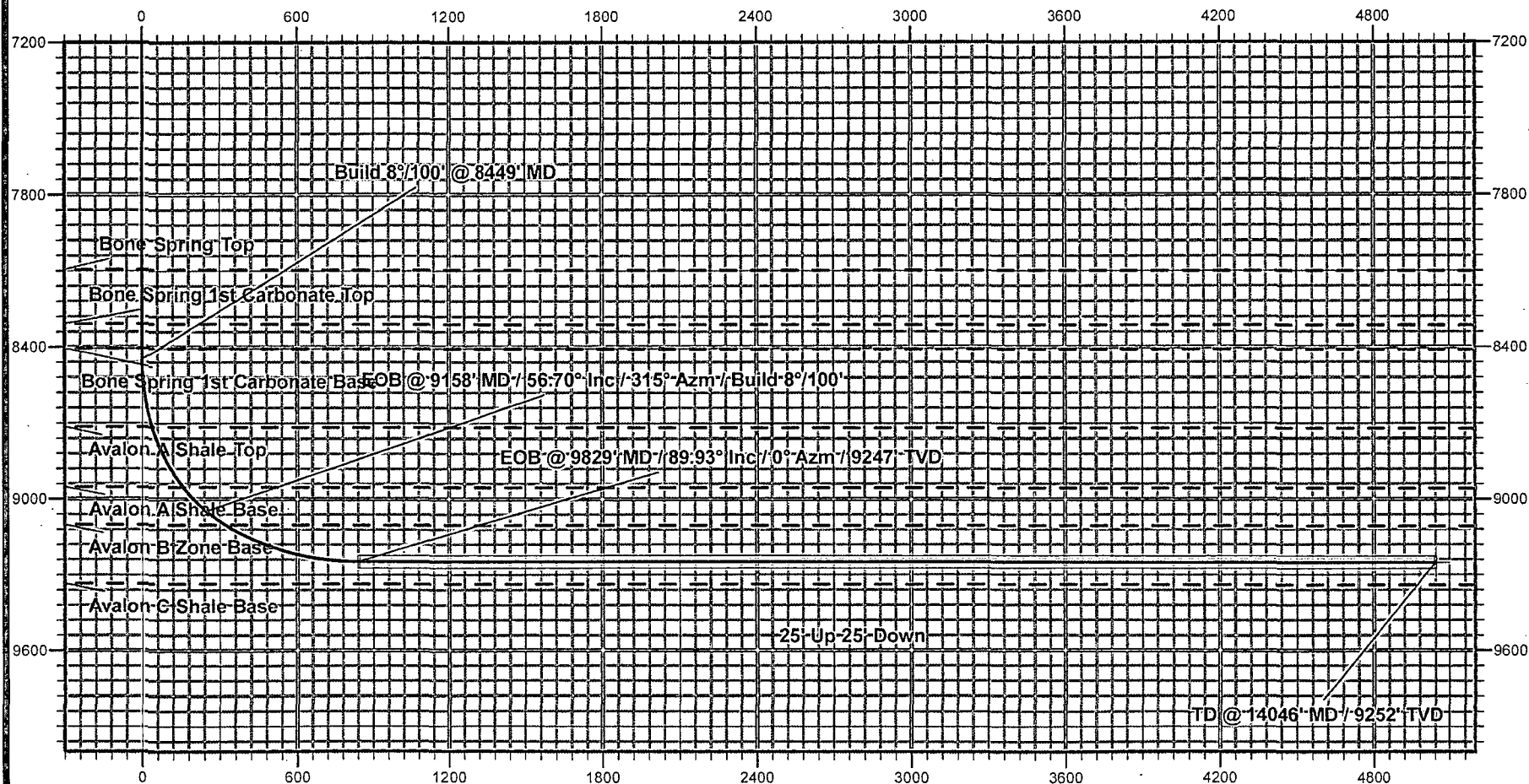
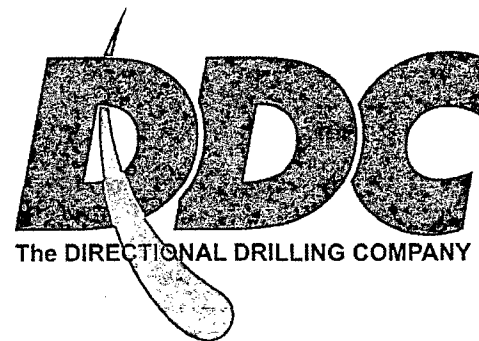


  
**ConocoPhillips**

Lea County, New Mexico

Buck Federal 17 #3H

Quote 120459



Vertical Section at 354.96° (600 usft/in)



|           |                           |                              |                                    |
|-----------|---------------------------|------------------------------|------------------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Buck Federal 17 #3H           |
| Company:  | Conoco Phillips           | TVD Reference:               | WELL @ 3192.0usft (Precision #827) |
| Project:  | Lea County, New Mexico    | MD Reference:                | WELL @ 3192.0usft (Precision #827) |
| Site:     | Sec 20, T26S, 32E         | North Reference:             | Grid                               |
| Well:     | Buck Federal 17 #3H       | Survey Calculation Method:   | Minimum Curvature                  |
| Wellbore: | Wellbore #1               |                              |                                    |
| Design:   | Design #1                 |                              |                                    |

|             |                                      |               |                |
|-------------|--------------------------------------|---------------|----------------|
| Project     | Lea County, New Mexico               |               |                |
| 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                  | Sec 20, T26S, 32E |                   |                   |
| Site Position:        |                   | Northing:         | 376,829.70 usft   |
| From:                 | Map               | Easting:          | 698,257.30 usft   |
| Position Uncertainty: | 0.0 usft          | Slot Radius:      | 13-3/16 "         |
|                       |                   | Latitude:         | 32° 2' 3.859 N    |
|                       |                   | Longitude:        | 103° 41' 36.778 W |
|                       |                   | Grid Convergence: | 0.34 °            |

|                      |                     |                     |                   |
|----------------------|---------------------|---------------------|-------------------|
| Well                 | Buck Federal 17 #3H |                     |                   |
| Well Position        | +N/-S               | 346.2 usft          | Northing:         |
|                      | +E/-W               | -939.9 usft         | Easting:          |
| Position Uncertainty | 0.0 usft            | Wellhead Elevation: | 377,175.88 usft   |
|                      |                     | Ground Level:       | 3,176.0 usft      |
|                      |                     | Latitude:           | 32° 2' 7.340 N    |
|                      |                     | Longitude:          | 103° 41' 47.673 W |

|           |             |             |                |
|-----------|-------------|-------------|----------------|
| Wellbore  | Wellbore #1 |             |                |
| Magnetics | Model Name  | Sample Date | Declination    |
|           |             |             | (°)            |
|           | IGRF2010    | 6/13/2012   | 7.51           |
|           |             |             | Dip Angle      |
|           |             |             | (°)            |
|           |             |             | 59.97          |
|           |             |             | Field Strength |
|           |             |             | (nT)           |
|           |             |             | 48,391         |

|                   |                  |        |               |
|-------------------|------------------|--------|---------------|
| Design            | Design #1        |        |               |
| Audit Notes:      |                  |        |               |
| Version:          | Phase:           | PLAN   | Tie On Depth: |
|                   |                  |        | 0.0           |
| Vertical Section: | Depth From (TVD) | +N/-S  | +E/-W         |
|                   | (usft)           | (usft) | (usft)        |
|                   | 0.0              | 0.0    | 0.0           |
|                   |                  |        | Direction     |
|                   |                  |        | (°)           |
|                   |                  |        | 354.96        |

| Plan Sections         |                 |             |                       |              |              |                         |                        |                       |         |                  |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target           |
| 0.0                   | 0.00            | 0.00        | 0.0                   | 0.0          | 0.0          | 0.00                    | 0.00                   | 0.00                  | 0.00    |                  |
| 8,448.8               | 0.00            | 0.00        | 8,448.8               | 0.0          | 0.0          | 0.00                    | 0.00                   | 0.00                  | 0.00    |                  |
| 9,157.5               | 56.70           | 315.00      | 9,047.4               | 228.4        | -228.4       | 8.00                    | 8.00                   | 0.00                  | 315.00  |                  |
| 9,829.1               | 89.93           | 0.00        | 9,247.0               | 805.6        | -442.8       | 8.00                    | 4.95                   | 6.70                  | 61.30   |                  |
| 14,046.4              | 89.93           | 0.00        | 9,252.0               | 5,022.8      | -442.6       | 0.00                    | 0.00                   | 0.00                  | 0.00    | PBHL Buck Federa |

|           |                           |                              |                                    |
|-----------|---------------------------|------------------------------|------------------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Buck Federal 17 #3H           |
| Company:  | Conoco Phillips           | TVD Reference:               | WELL @ 3192.0usft (Precision #827) |
| Project:  | Lea County, New Mexico    | MD Reference:                | WELL @ 3192.0usft (Precision #827) |
| Site:     | Sec 20, T26S, 32E         | North Reference:             | Grid                               |
| Well:     | Buck Federal 17 #3H       | Survey Calculation Method:   | Minimum Curvature                  |
| Wellbore: | Wellbore #1               |                              |                                    |
| Design:   | Design #1                 |                              |                                    |

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 0.0                   | 0.00            | 0.00        | 0.0                   | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 100.0                 | 0.00            | 0.00        | 100.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 200.0                 | 0.00            | 0.00        | 200.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 300.0                 | 0.00            | 0.00        | 300.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 400.0                 | 0.00            | 0.00        | 400.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 500.0                 | 0.00            | 0.00        | 500.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 600.0                 | 0.00            | 0.00        | 600.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 700.0                 | 0.00            | 0.00        | 700.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 800.0                 | 0.00            | 0.00        | 800.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 900.0                 | 0.00            | 0.00        | 900.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,000.0               | 0.00            | 0.00        | 1,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| Rustler               |                 |             |                       |              |              |                         |                         |                        |                       |
| 1,024.0               | 0.00            | 0.00        | 1,024.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,100.0               | 0.00            | 0.00        | 1,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,200.0               | 0.00            | 0.00        | 1,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,300.0               | 0.00            | 0.00        | 1,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,400.0               | 0.00            | 0.00        | 1,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,500.0               | 0.00            | 0.00        | 1,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,600.0               | 0.00            | 0.00        | 1,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,700.0               | 0.00            | 0.00        | 1,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,800.0               | 0.00            | 0.00        | 1,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,900.0               | 0.00            | 0.00        | 1,900.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,000.0               | 0.00            | 0.00        | 2,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,100.0               | 0.00            | 0.00        | 2,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,200.0               | 0.00            | 0.00        | 2,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,300.0               | 0.00            | 0.00        | 2,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| Castile               |                 |             |                       |              |              |                         |                         |                        |                       |
| 2,394.0               | 0.00            | 0.00        | 2,394.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,400.0               | 0.00            | 0.00        | 2,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,500.0               | 0.00            | 0.00        | 2,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,600.0               | 0.00            | 0.00        | 2,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,700.0               | 0.00            | 0.00        | 2,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,800.0               | 0.00            | 0.00        | 2,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,900.0               | 0.00            | 0.00        | 2,900.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,000.0               | 0.00            | 0.00        | 3,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,100.0               | 0.00            | 0.00        | 3,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,200.0               | 0.00            | 0.00        | 3,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,300.0               | 0.00            | 0.00        | 3,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,400.0               | 0.00            | 0.00        | 3,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,500.0               | 0.00            | 0.00        | 3,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,600.0               | 0.00            | 0.00        | 3,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,700.0               | 0.00            | 0.00        | 3,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,800.0               | 0.00            | 0.00        | 3,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,900.0               | 0.00            | 0.00        | 3,900.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,000.0               | 0.00            | 0.00        | 4,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,100.0               | 0.00            | 0.00        | 4,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,200.0               | 0.00            | 0.00        | 4,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,300.0               | 0.00            | 0.00        | 4,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| Delaware Top          |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,328.0               | 0.00            | 0.00        | 4,328.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| Ramsey                |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,362.0               | 0.00            | 0.00        | 4,362.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,400.0               | 0.00            | 0.00        | 4,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| Ford Sh               |                 |             |                       |              |              |                         |                         |                        |                       |

|           |                           |                              |                                    |
|-----------|---------------------------|------------------------------|------------------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Buck Federal 17 #3H           |
| Company:  | Conoco Phillips           | TVD Reference:               | WELL @ 3192.0usft (Precision #827) |
| Project:  | Lea County, New Mexico    | MD Reference:                | WELL @ 3192.0usft (Precision #827) |
| Site:     | Sec 20, T26S, 32E         | North Reference:             | Grid                               |
| Well:     | Buck Federal 17 #3H       | Survey Calculation Method:   | Minimum Curvature                  |
| Wellbore: | Wellbore #1               |                              |                                    |
| Design:   | Design #1                 |                              |                                    |

#### Planned Survey

| Measured Depth (usft)                 | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 4,420.0                               | 0.00            | 0.00        | 4,420.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| <b>Olds</b>                           |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,432.0                               | 0.00            | 0.00        | 4,432.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,500.0                               | 0.00            | 0.00        | 4,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,600.0                               | 0.00            | 0.00        | 4,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,700.0                               | 0.00            | 0.00        | 4,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,800.0                               | 0.00            | 0.00        | 4,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,900.0                               | 0.00            | 0.00        | 4,900.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,000.0                               | 0.00            | 0.00        | 5,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,100.0                               | 0.00            | 0.00        | 5,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,200.0                               | 0.00            | 0.00        | 5,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,300.0                               | 0.00            | 0.00        | 5,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,400.0                               | 0.00            | 0.00        | 5,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,500.0                               | 0.00            | 0.00        | 5,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,600.0                               | 0.00            | 0.00        | 5,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,700.0                               | 0.00            | 0.00        | 5,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,800.0                               | 0.00            | 0.00        | 5,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 5,900.0                               | 0.00            | 0.00        | 5,900.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 6,000.0                               | 0.00            | 0.00        | 6,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| <b>Cherry Canyon Lower Top</b>        |                 |             |                       |              |              |                         |                         |                        |                       |
| 6,082.0                               | 0.00            | 0.00        | 6,082.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 6,100.0                               | 0.00            | 0.00        | 6,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 6,200.0                               | 0.00            | 0.00        | 6,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 6,300.0                               | 0.00            | 0.00        | 6,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 6,400.0                               | 0.00            | 0.00        | 6,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 6,500.0                               | 0.00            | 0.00        | 6,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 6,600.0                               | 0.00            | 0.00        | 6,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 6,700.0                               | 0.00            | 0.00        | 6,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 6,800.0                               | 0.00            | 0.00        | 6,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 6,900.0                               | 0.00            | 0.00        | 6,900.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 7,000.0                               | 0.00            | 0.00        | 7,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 7,100.0                               | 0.00            | 0.00        | 7,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 7,200.0                               | 0.00            | 0.00        | 7,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 7,300.0                               | 0.00            | 0.00        | 7,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 7,400.0                               | 0.00            | 0.00        | 7,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 7,500.0                               | 0.00            | 0.00        | 7,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 7,600.0                               | 0.00            | 0.00        | 7,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 7,700.0                               | 0.00            | 0.00        | 7,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 7,800.0                               | 0.00            | 0.00        | 7,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 7,900.0                               | 0.00            | 0.00        | 7,900.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 8,000.0                               | 0.00            | 0.00        | 8,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| <b>Bone Spring Top</b>                |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,095.0                               | 0.00            | 0.00        | 8,095.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 8,100.0                               | 0.00            | 0.00        | 8,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 8,200.0                               | 0.00            | 0.00        | 8,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 8,300.0                               | 0.00            | 0.00        | 8,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| <b>Bone Spring 1st Carbonate Top</b>  |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,309.0                               | 0.00            | 0.00        | 8,309.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 8,400.0                               | 0.00            | 0.00        | 8,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| <b>Bone Spring 1st Carbonate Base</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,405.0                               | 0.00            | 0.00        | 8,405.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| <b>Build 8°/100' @ 8449' MD</b>       |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,448.8                               | 0.00            | 0.00        | 8,448.8               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |

|           |                           |                              |                                    |
|-----------|---------------------------|------------------------------|------------------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Buck Federal 17 #3H           |
| Company:  | Conoco Phillips           | TVD Reference:               | WELL @ 3192.0usft (Precision #827) |
| Project:  | Lea County, New Mexico    | MD Reference:                | WELL @ 3192.0usft (Precision #827) |
| Site:     | Sec 20, T26S, 32E         | North Reference:             | Grid                               |
| Well:     | Buck Federal 17 #3H       | Survey Calculation Method:   | Minimum Curvature                  |
| Wellbore: | Wellbore #1               |                              |                                    |
| Design:   | Design #1                 |                              |                                    |

#### Planned Survey

| Measured Depth (usft)                                         | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---------------------------------------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 8,500.0                                                       | 4.10            | 315.00      | 8,500.0               | 1.3          | -1.3         | 1.4                     | 8.00                    | 8.00                   | 0.00                  |
| 8,600.0                                                       | 12.10           | 315.00      | 8,598.9               | 11.2         | -11.2        | 12.2                    | 8.00                    | 8.00                   | 0.00                  |
| 8,700.0                                                       | 20.10           | 315.00      | 8,694.9               | 30.8         | -30.8        | 33.4                    | 8.00                    | 8.00                   | 0.00                  |
| <b>Avalon A Shale Top</b>                                     |                 |             |                       |              |              |                         |                         |                        |                       |
| 8,721.6                                                       | 21.82           | 315.00      | 8,715.0               | 36.3         | -36.3        | 39.3                    | 8.00                    | 8.00                   | 0.00                  |
| 8,800.0                                                       | 28.10           | 315.00      | 8,786.1               | 59.7         | -59.7        | 64.7                    | 8.00                    | 8.00                   | 0.00                  |
| 8,900.0                                                       | 36.10           | 315.00      | 8,870.7               | 97.2         | -97.2        | 105.4                   | 8.00                    | 8.00                   | 0.00                  |
| 9,000.0                                                       | 44.10           | 315.00      | 8,947.2               | 142.7        | -142.7       | 154.7                   | 8.00                    | 8.00                   | 0.00                  |
| <b>Avalon A Shale Base - Avalon B Zone Top</b>                |                 |             |                       |              |              |                         |                         |                        |                       |
| 9,007.0                                                       | 44.66           | 315.00      | 8,952.2               | 146.2        | -146.2       | 158.5                   | 8.00                    | 8.00                   | 0.00                  |
| 9,100.0                                                       | 52.10           | 315.00      | 9,013.9               | 195.3        | -195.3       | 211.7                   | 8.00                    | 8.00                   | 0.00                  |
| <b>EOB @ 9158' MD / 56.70° Inc / 315° Azm / Build 8°/100'</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 9,157.5                                                       | 56.70           | 315.00      | 9,047.4               | 228.4        | -228.4       | 247.6                   | 8.00                    | 8.00                   | 0.00                  |
| 9,200.0                                                       | 58.38           | 318.50      | 9,070.2               | 254.5        | -252.9       | 275.7                   | 8.00                    | 3.96                   | 8.24                  |
| <b>Avalon B Zone Base - Avalon C Shale Top</b>                |                 |             |                       |              |              |                         |                         |                        |                       |
| 9,263.9                                                       | 61.08           | 323.52      | 9,102.4               | 297.3        | -287.6       | 321.4                   | 8.00                    | 4.22                   | 7.87                  |
| 9,300.0                                                       | 62.69           | 326.25      | 9,119.4               | 323.4        | -305.9       | 349.0                   | 8.00                    | 4.45                   | 7.54                  |
| 9,400.0                                                       | 67.38           | 333.39      | 9,161.7               | 401.7        | -351.3       | 431.0                   | 8.00                    | 4.70                   | 7.15                  |
| 9,500.0                                                       | 72.38           | 340.05      | 9,196.1               | 487.9        | -388.3       | 520.1                   | 8.00                    | 4.99                   | 6.66                  |
| 9,600.0                                                       | 77.58           | 346.35      | 9,222.0               | 580.3        | -416.1       | 614.6                   | 8.00                    | 5.20                   | 6.29                  |
| 9,700.0                                                       | 82.93           | 352.39      | 9,239.0               | 677.1        | -434.3       | 712.6                   | 8.00                    | 5.34                   | 6.04                  |
| 9,800.0                                                       | 88.35           | 358.29      | 9,246.6               | 776.4        | -442.3       | 812.3                   | 8.00                    | 5.42                   | 5.90                  |
| <b>EOB @ 9829' MD / 89.93° Inc / 0° Azm / 9247' TVD</b>       |                 |             |                       |              |              |                         |                         |                        |                       |
| 9,829.1                                                       | 89.93           | 0.00        | 9,247.0               | 805.6        | -442.8       | 841.3                   | 8.00                    | 5.44                   | 5.87                  |
| 9,900.0                                                       | 89.93           | 0.00        | 9,247.1               | 876.4        | -442.8       | 911.9                   | 0.00                    | 0.00                   | 0.00                  |
| 10,000.0                                                      | 89.93           | 0.00        | 9,247.2               | 976.4        | -442.8       | 1,011.5                 | 0.00                    | 0.00                   | 0.00                  |
| 10,100.0                                                      | 89.93           | 0.00        | 9,247.3               | 1,076.4      | -442.8       | 1,111.1                 | 0.00                    | 0.00                   | 0.00                  |
| 10,200.0                                                      | 89.93           | 0.00        | 9,247.4               | 1,176.4      | -442.8       | 1,210.7                 | 0.00                    | 0.00                   | 0.00                  |
| 10,300.0                                                      | 89.93           | 0.00        | 9,247.6               | 1,276.4      | -442.8       | 1,310.4                 | 0.00                    | 0.00                   | 0.00                  |
| 10,400.0                                                      | 89.93           | 0.00        | 9,247.7               | 1,376.4      | -442.7       | 1,410.0                 | 0.00                    | 0.00                   | 0.00                  |
| 10,500.0                                                      | 89.93           | 0.00        | 9,247.8               | 1,476.4      | -442.7       | 1,509.6                 | 0.00                    | 0.00                   | 0.00                  |
| 10,600.0                                                      | 89.93           | 0.00        | 9,247.9               | 1,576.4      | -442.7       | 1,609.2                 | 0.00                    | 0.00                   | 0.00                  |
| 10,700.0                                                      | 89.93           | 0.00        | 9,248.0               | 1,676.4      | -442.7       | 1,708.8                 | 0.00                    | 0.00                   | 0.00                  |
| 10,800.0                                                      | 89.93           | 0.00        | 9,248.2               | 1,776.4      | -442.7       | 1,808.4                 | 0.00                    | 0.00                   | 0.00                  |
| 10,900.0                                                      | 89.93           | 0.00        | 9,248.3               | 1,876.4      | -442.7       | 1,908.0                 | 0.00                    | 0.00                   | 0.00                  |
| 11,000.0                                                      | 89.93           | 0.00        | 9,248.4               | 1,976.4      | -442.7       | 2,007.7                 | 0.00                    | 0.00                   | 0.00                  |
| 11,100.0                                                      | 89.93           | 0.00        | 9,248.5               | 2,076.4      | -442.7       | 2,107.3                 | 0.00                    | 0.00                   | 0.00                  |
| 11,200.0                                                      | 89.93           | 0.00        | 9,248.6               | 2,176.4      | -442.7       | 2,206.9                 | 0.00                    | 0.00                   | 0.00                  |
| 11,300.0                                                      | 89.93           | 0.00        | 9,248.7               | 2,276.4      | -442.7       | 2,306.5                 | 0.00                    | 0.00                   | 0.00                  |
| 11,400.0                                                      | 89.93           | 0.00        | 9,248.9               | 2,376.4      | -442.7       | 2,406.1                 | 0.00                    | 0.00                   | 0.00                  |
| 11,500.0                                                      | 89.93           | 0.00        | 9,249.0               | 2,476.4      | -442.7       | 2,505.7                 | 0.00                    | 0.00                   | 0.00                  |
| 11,600.0                                                      | 89.93           | 0.00        | 9,249.1               | 2,576.4      | -442.7       | 2,605.3                 | 0.00                    | 0.00                   | 0.00                  |
| 11,700.0                                                      | 89.93           | 0.00        | 9,249.2               | 2,676.4      | -442.7       | 2,704.9                 | 0.00                    | 0.00                   | 0.00                  |
| 11,800.0                                                      | 89.93           | 0.00        | 9,249.3               | 2,776.4      | -442.7       | 2,804.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,900.0                                                      | 89.93           | 0.00        | 9,249.5               | 2,876.4      | -442.7       | 2,904.2                 | 0.00                    | 0.00                   | 0.00                  |
| 12,000.0                                                      | 89.93           | 0.00        | 9,249.6               | 2,976.4      | -442.7       | 3,003.8                 | 0.00                    | 0.00                   | 0.00                  |
| 12,100.0                                                      | 89.93           | 0.00        | 9,249.7               | 3,076.4      | -442.7       | 3,103.4                 | 0.00                    | 0.00                   | 0.00                  |
| 12,200.0                                                      | 89.93           | 0.00        | 9,249.8               | 3,176.4      | -442.7       | 3,203.0                 | 0.00                    | 0.00                   | 0.00                  |
| 12,300.0                                                      | 89.93           | 0.00        | 9,249.9               | 3,276.4      | -442.7       | 3,302.6                 | 0.00                    | 0.00                   | 0.00                  |
| 12,400.0                                                      | 89.93           | 0.00        | 9,250.1               | 3,376.4      | -442.7       | 3,402.2                 | 0.00                    | 0.00                   | 0.00                  |
| 12,500.0                                                      | 89.93           | 0.00        | 9,250.2               | 3,476.4      | -442.6       | 3,501.9                 | 0.00                    | 0.00                   | 0.00                  |
| 12,600.0                                                      | 89.93           | 0.00        | 9,250.3               | 3,576.4      | -442.6       | 3,601.5                 | 0.00                    | 0.00                   | 0.00                  |
| 12,700.0                                                      | 89.93           | 0.00        | 9,250.4               | 3,676.4      | -442.6       | 3,701.1                 | 0.00                    | 0.00                   | 0.00                  |
| 12,800.0                                                      | 89.93           | 0.00        | 9,250.5               | 3,776.4      | -442.6       | 3,800.7                 | 0.00                    | 0.00                   | 0.00                  |

Database: EDM 5000.1 Single User Db  
Company: Conoco Phillips  
Project: Lea County, New Mexico  
Site: Sec 20, T26S, 32E  
Well: Buck Federal 17 #3H  
Wellbore: Wellbore #1  
Design: Design #1

Local Co-ordinate Reference: Well Buck Federal 17 #3H  
TVD Reference: WELL @ 3192.0usft (Precision #827)  
MD Reference: WELL @ 3192.0usft (Precision #827)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

#### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 12,900.0              | 89.93           | 0.00        | 9,250.6               | 3,876.4      | -442.6       | 3,900.3                 | 0.00                    | 0.00                   | 0.00                  |
| 13,000.0              | 89.93           | 0.00        | 9,250.8               | 3,976.4      | -442.6       | 3,999.9                 | 0.00                    | 0.00                   | 0.00                  |
| 13,100.0              | 89.93           | 0.00        | 9,250.9               | 4,076.4      | -442.6       | 4,099.5                 | 0.00                    | 0.00                   | 0.00                  |
| 13,200.0              | 89.93           | 0.00        | 9,251.0               | 4,176.4      | -442.6       | 4,199.2                 | 0.00                    | 0.00                   | 0.00                  |
| 13,300.0              | 89.93           | 0.00        | 9,251.1               | 4,276.4      | -442.6       | 4,298.8                 | 0.00                    | 0.00                   | 0.00                  |
| 13,400.0              | 89.93           | 0.00        | 9,251.2               | 4,376.4      | -442.6       | 4,398.4                 | 0.00                    | 0.00                   | 0.00                  |
| 13,500.0              | 89.93           | 0.00        | 9,251.4               | 4,476.4      | -442.6       | 4,498.0                 | 0.00                    | 0.00                   | 0.00                  |
| 13,600.0              | 89.93           | 0.00        | 9,251.5               | 4,576.4      | -442.6       | 4,597.6                 | 0.00                    | 0.00                   | 0.00                  |
| 13,700.0              | 89.93           | 0.00        | 9,251.6               | 4,676.4      | -442.6       | 4,697.2                 | 0.00                    | 0.00                   | 0.00                  |
| 13,800.0              | 89.93           | 0.00        | 9,251.7               | 4,776.4      | -442.6       | 4,796.8                 | 0.00                    | 0.00                   | 0.00                  |
| 13,900.0              | 89.93           | 0.00        | 9,251.8               | 4,876.4      | -442.6       | 4,896.4                 | 0.00                    | 0.00                   | 0.00                  |
| 14,000.0              | 89.93           | 0.00        | 9,251.9               | 4,976.4      | -442.6       | 4,996.1                 | 0.00                    | 0.00                   | 0.00                  |
| 14,046.4              | 89.93           | 0.00        | 9,252.0               | 5,022.8      | -442.6       | 5,042.2                 | 0.00                    | 0.00                   | 0.00                  |

#### Design Targets

##### Target Name

| - hit/miss target                         | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude        | Longitude         |
|-------------------------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------------|-------------------|
| - Shape                                   |               |              |            |              |              |                 |                |                 |                   |
| PBHL Buck Federal 1                       | 90.07         | 354.96       | 9,252.0    | 5,022.8      | -442.6       | 382,198.66      | 696,874.87     | 32° 2' 57.071 N | 103° 41' 52.471 W |
| - plan hits target center                 |               |              |            |              |              |                 |                |                 |                   |
| - Rectangle (sides W100.0 H50.0 D4,326.9) |               |              |            |              |              |                 |                |                 |                   |

#### Formations

| Measured Depth (usft) | Vertical Depth (usft) | Name                           | Lithology | Dip (°) | Dip Direction (°) |
|-----------------------|-----------------------|--------------------------------|-----------|---------|-------------------|
| 1,024.0               | 1,024.0               | Rustler                        |           | 0.07    | 354.96            |
| 2,394.0               | 2,394.0               | Castile                        |           | 0.07    | 354.96            |
| 4,328.0               | 4,328.0               | Delaware Top                   |           | 0.07    | 354.96            |
| 4,362.0               | 4,362.0               | Ramsey                         |           | 0.07    | 354.96            |
| 4,420.0               | 4,420.0               | Ford Sh                        |           | 0.07    | 354.96            |
| 4,432.0               | 4,432.0               | Olds                           |           | 0.07    | 354.96            |
| 6,082.0               | 6,082.0               | Cherry Canyon Lower Top        |           | 0.07    | 354.96            |
| 8,095.0               | 8,095.0               | Bone Spring Top                |           | 0.07    | 354.96            |
| 8,309.0               | 8,309.0               | Bone Spring 1st Carbonate Top  |           | 0.07    | 354.96            |
| 8,405.0               | 8,405.0               | Bone Spring 1st Carbonate Base |           | 0.07    | 354.96            |
| 8,721.6               | 8,715.0               | Avalon A Shale Top             |           | 0.07    | 354.96            |
| 9,007.0               | 8,952.2               | Avalon A Shale Base            |           | 0.07    | 354.96            |
| 9,007.0               | 8,952.2               | Avalon B Zone Top              |           | 0.07    | 354.96            |
| 9,263.9               | 9,102.4               | Avalon B Zone Base             |           | 0.07    | 354.96            |
| 9,263.9               | 9,102.4               | Avalon C Shale Top             |           | 0.07    | 354.96            |

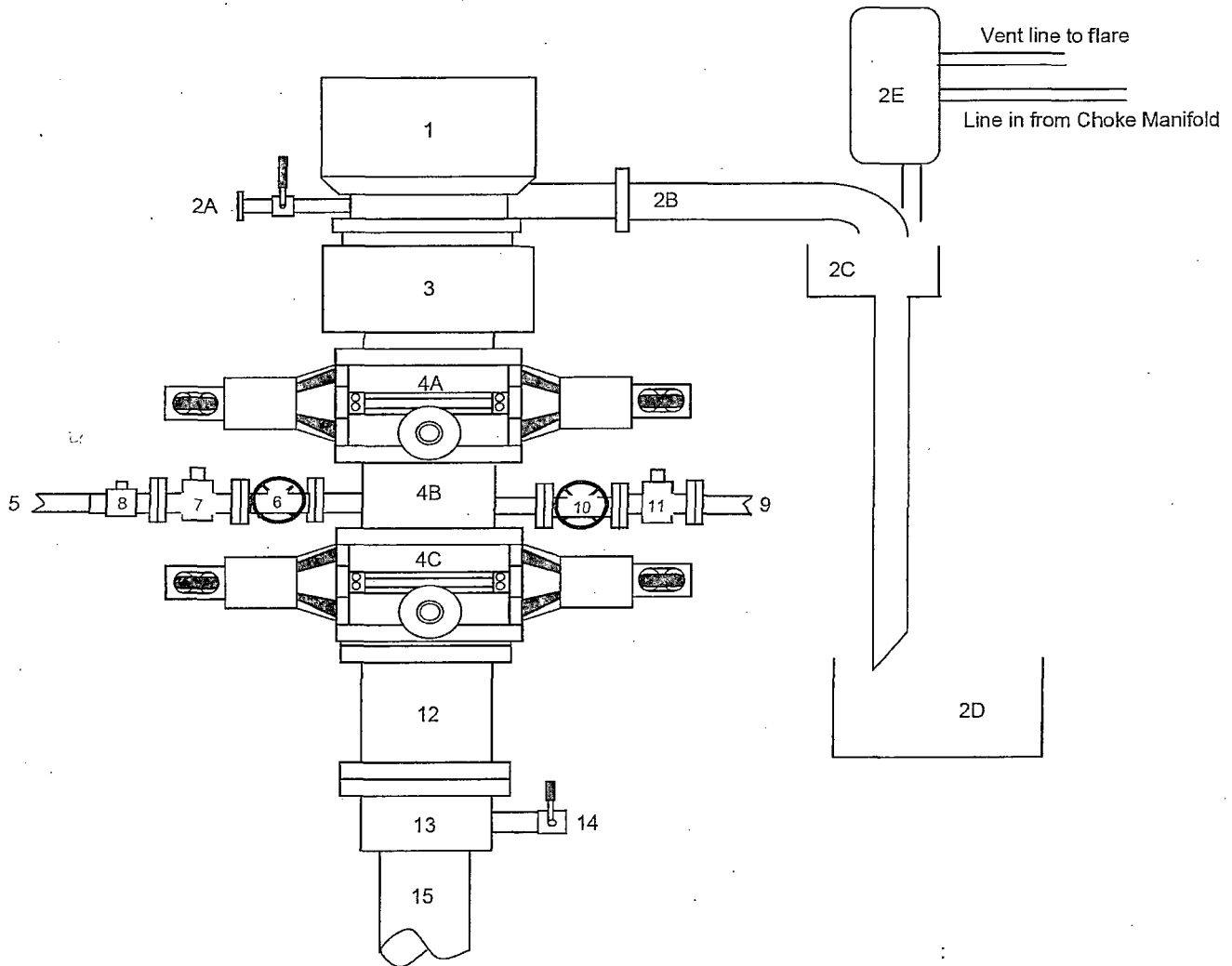
|           |                           |                              |                                    |
|-----------|---------------------------|------------------------------|------------------------------------|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Buck Federal 17 #3H           |
| Company:  | Conoco Phillips           | TVD Reference:               | WELL @ 3192.0usft (Precision #827) |
| Project:  | Lea County, New Mexico    | MD Reference:                | WELL @ 3192.0usft (Precision #827) |
| Site:     | Sec 20, T26S, 32E         | North Reference:             | Grid                               |
| Well:     | Buck Federal 17 #3H       | Survey Calculation Method:   | Minimum Curvature                  |
| Wellbore: | Wellbore #1               |                              |                                    |
| Design:   | Design #1                 |                              |                                    |

Plan Annotations

| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                 | Comment                                                |
|-----------------------------|-----------------------------|-------------------|-----------------|--------------------------------------------------------|
|                             |                             | +N/-S<br>(usft)   | +E/-W<br>(usft) |                                                        |
| 8,448.8                     | 8,448.8                     | 0.0               | 0.0             | Build 8°/100' @ 8449' MD                               |
| 9,157.5                     | 9,047.4                     | 228.4             | -228.4          | EOB @ 9158' MD / 56.70° Inc / 315° Azm / Build 8°/100' |
| 9,829.1                     | 9,247.0                     | 805.6             | -442.8          | EOB @ 9829' MD / 89.93° Inc / 0° Azm / 9247' TVD       |
| 14,046.4                    | 9,252.0                     | 5,022.8           | -442.6          | TD @ 14046' MD / 9252' TVD                             |

## BLOWOUT PREVENTER ARRANGEMENT

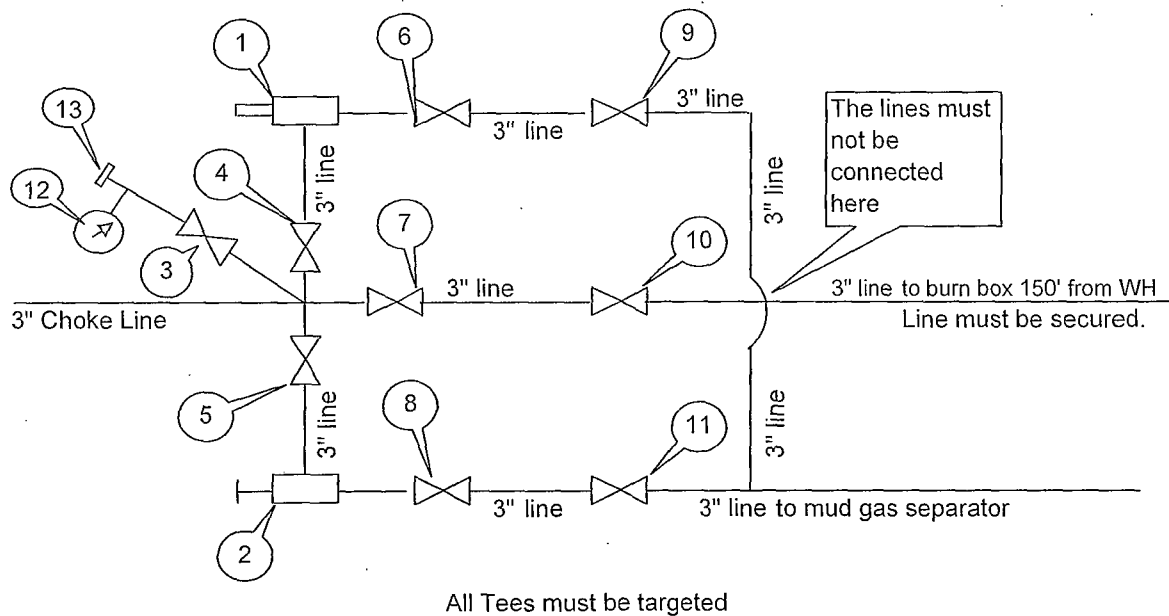
3M System per Onshore Oil and Gas Order No. 2 utilizing 5M Rated Equipment



| Item | Description                                                             |
|------|-------------------------------------------------------------------------|
| 1    | Rotating Head, 13-5/8"                                                  |
| 2A   | Fill up Line and Valve                                                  |
| 2B   | Flow Line (10")                                                         |
| 2C   | Shale Shakers and Solids Settling Tank                                  |
| 2D   | Cuttings Bins for Zero Discharge                                        |
| 2E   | Mud Gas Separator with vent line to flare and return line to mud system |
| 3    | Annular BOP (13-5/8", 5M)                                               |
| 4A   | Single Ram (13-3/8", 5M, equipped with Blind Rams)                      |
| 4B   | Drilling Spool (13-3/8" 5M)                                             |
| 4C   | Single Ram (13-3/8", 5M, equipped with Pipe Rams)                       |
| 5    | Kill Line (3", 5000 psi WP, steel line) (not a flexible line)           |
| 6    | Kill Line Valve, Inner (3-1/8", 5000 psi WP)                            |
| 7    | Kill Line Valve, Outer (3-1/8", 5000 psi WP, Hydraulically Operated)    |
| 8    | Kill Line Check Valve (3-1/8", 5000 psi WP)                             |
| 9    | Choke Line (3", 5000 psi WP, steel line) (not a flexible line)          |
| 10   | Choke Line Valve, Inner (3-1/8", 5000 psi WP)                           |
| 11   | Choke Line Valve, Outer, (Hydraulically operated, 3-1/8", 5000 psi WP)  |
| 12   | Spacer Spool (13-3/8", 5M, with rotating bottom flange)                 |
| 13   | Casing Head (11", 5M)                                                   |
| 14   | Ball Valve and Threaded Nipple on Casing Head Outlet, 2" 5M             |
| 15   | Surface Casing                                                          |

## CHOKE MANIFOLD ARRANGEMENT

3M System per Onshore Oil and Gas Order No. 2 utilizing 5M Equipment



| Item | Description                                              |
|------|----------------------------------------------------------|
| 1    | Remote Controlled Hydraulic Adjustable Choke, 3-1/8", 5M |
| 2    | Manual Adjustable Choke, 3-1/8", 5M                      |
| 3    | Gate Valve, 2-1/16" 5M                                   |
| 4    | Gate Valve, 3-1/8" 5M                                    |
| 5    | Gate Valve, 3-1/8" 5M                                    |
| 6    | Gate Valve, 3-1/8" 5M                                    |
| 7    | Gate Valve, 3-1/8" 5M                                    |
| 8    | Gate Valve, 3-1/8" 5M                                    |
| 9    | Gate Valve, 3-1/8" 5M                                    |
| 10   | Gate Valve, 3-1/8" 5M                                    |
| 11   | Gate Valve, 3-1/8" 5M                                    |
| 12   | Pressure Gauge                                           |
| 13   | 2" hammer union tie-in point for BOP Tester              |

We will test each valve to 3000 psi from the upstream side.

Drawn by:

Steven O. Moore

Chief Drilling Engineer, Mid-Continent Business Unit, ConocoPhillips Company

Date: 25-Sept-2012