

OCD Hobbs

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DEC 09 2009

HOBBSOCD

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007

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>NMNM-94863  |  |
| 1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" 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   |  |
| 2. Name of Operator<br>Devon Energy Production Company, LP   |   | 7. If Unit or CA Agreement, Name and No.   |  |
| 3a. Address 20 North Broadway<br>Oklahoma City, Oklahoma City 73102-8260   |   | 8. Lease Name and Well No. <b>&lt;34832&gt;</b><br>Arena Roja Federal Unit 11  |  |
| 3b. Phone No. (include area code)<br>405-552-8198  |   | 9. API Well No.<br>30-025-39595  |  |
| 4. Location of Well (Report location clearly and in accordance with any State requirements *)<br>At surface 880 FNL & 1480 FEL, Unit B<br>At proposed prod zone 880 FNL & 1480 FEL, Unit B                             |   | 10. Field and Pool, or Exploratory<br>Taleo Strawn <b>&lt;GAS&gt;</b> <b>&lt;85850&gt;</b>                           |  |
| 11. Sec, T, R, M. or Blk. and Survey or Area<br>Sec 14, T26S R35E Unit B   |   | 12. County or Parish<br>Lea County   |  |
| 13. State<br>NM  |   | 14. Distance in miles and direction from nearest town or post office*<br>Approximately 9 miles southwest of Jal, NM. |  |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)<br>880'  | 16. No. of acres in lease<br>2,250 acres            | 17. Spacing Unit dedicated to this well<br>320 acres   |  |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.<br>3450'  | 19. Proposed Depth<br>14,687'                       | 20. BLM/BIA Bond No. on file<br>CO-1104  |  |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br>3035' GL  | 22. Approximate date work will start*<br>11/01/2009 | 23. Estimated duration<br>45 days  |  |

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, shall 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 shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

|  |  |                    |
|--|--|--------------------|
| 25. Signature<br> | Name (Printed/Typed)<br>Norvella Adams | Date<br>07/24/2009 |
|--|--|--------------------|

Title  
Sr. Staff Eng. Tech

|   |                                       |                     |
|---|---------------------------------------|---------------------|
| Approved by (Signature)<br>/s/ Don Peterson | Name (Printed/Typed)<br>FIELD MANAGER | Date<br>DEC 04 2009 |
| Title<br>FIELD MANAGER                      | Office<br>CARLSBAD FIELD OFFICE       |                     |

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.

\*(Instructions on page 2)

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

Capitan Controlled Water Basin

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

# RECEIVED

DEC 09 2009

Form C-102

Revised October 12, 2005

DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II  
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

HOBBSOCD

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

## OIL CONSERVATION DIVISION

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

### WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

|                                   |  |                           |                           |
|-----------------------------------|--|---------------------------|---------------------------|
| API Number<br><b>38-025-39594</b> | Pool Code<br><b>35850</b>                                  | Pool Name<br><b>Talco</b> | Strawn<br><b>GAS</b>      |
| Property Code<br><b>34832</b>     | Property Name<br><b>ARENA ROJA FEDERAL</b>                 |                           | Well Number<br><b>11</b>  |
| OGRID No.<br><b>6137</b>          | Operator Name<br><b>DEVON ENERGY PRODUCTION COMPANY LP</b> |                           | Elevation<br><b>3035'</b> |

#### Surface Location

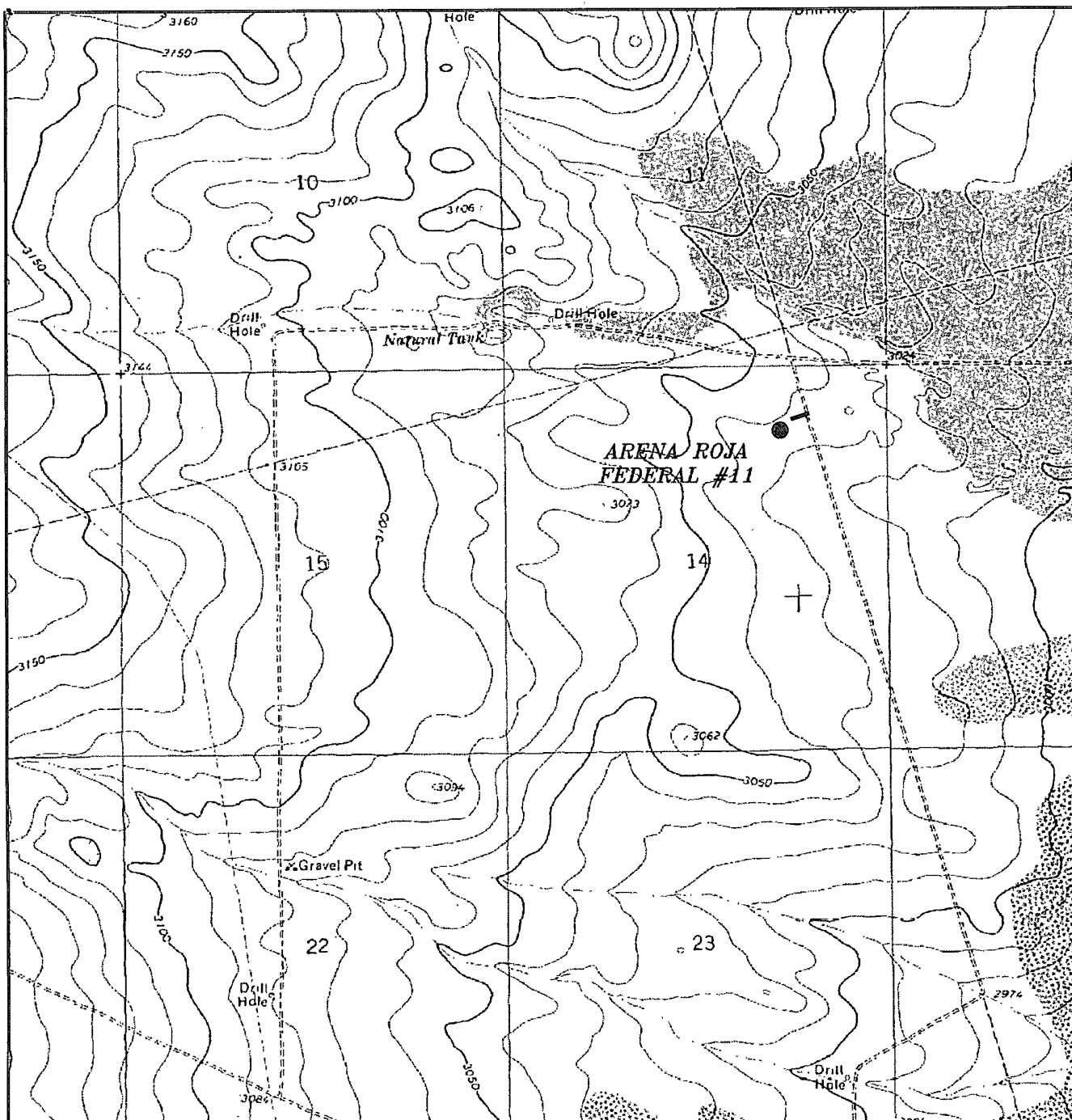
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| B             | 14      | 26 S     | 35 E  |         | 880           | NORTH            | 1480          | EAST           | LEA    |

#### Bottom Hole Location If Different From Surface

| UL or lot No.          | Section         | Township           | Range     | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|------------------------|-----------------|--------------------|-----------|---------|---------------|------------------|---------------|----------------|--------|
|                        |                 |                    |           |         |               |                  |               |                |        |
| Dedicated Acres<br>320 | Joint or Infill | Consolidation Code | Order No. |         |               |                  |               |                |        |

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

|   |  |   |
|---|--|---|
| <p><b>SURFACE LOCATION</b><br/>         Lat - N32°02'53.18"<br/>         Long - W103°20'04.35"<br/>         SPC- N.: 382669.9<br/>         E.: 850795.8<br/>         (NAD-83)</p> |  | <p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Norvella Adams</i> 7/21/09<br/>         Signature Date</p> <p>Norvella Adams<br/>         Printed Name</p> |
|   |  | <p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>OCTOBER 21 2008<br/>         Date Surveyed</p> <p><i>Gary L. Jones</i><br/>         Signature of Professional Surveyor</p> <p>W.O. 7977<br/>         Professional Surveyor</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>  |
|   |  |   |
|   |  |   |



**ARENA ROJA FEDERAL #11**  
 Located at 880' FNL AND 1480' FEL  
 Section 14, Township 26 South, Range 35 East,  
 N.M.P.M., Lea County, New Mexico.



focused on excellence  
in the oilfield

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

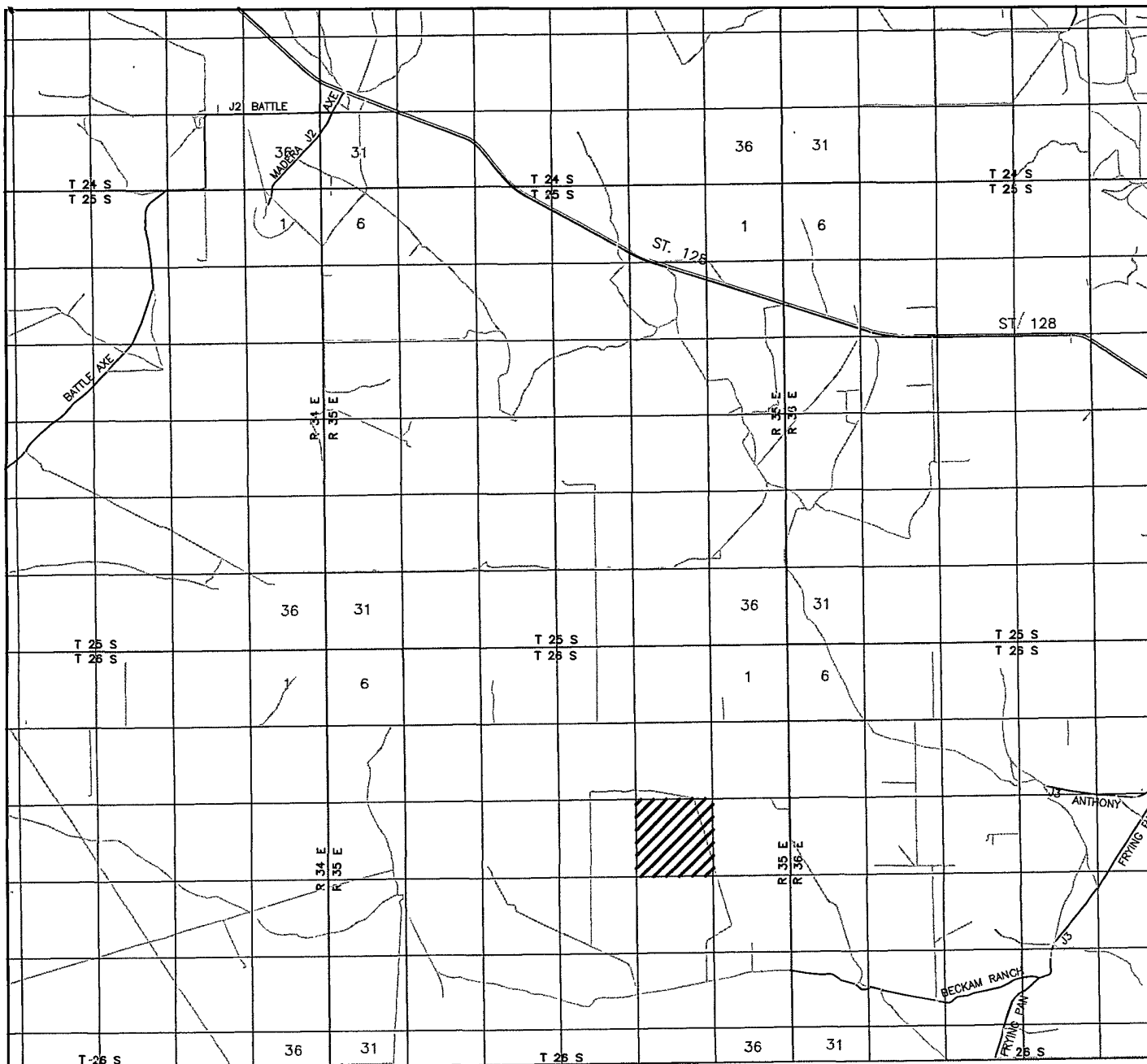
W.O. Number: JMS 20642

Survey Date: 10-21-2008

Scale: 1" = 2000'

Date: 10-22-2008

**DEVON ENERGY  
 PROD. CO., L.P.**



ARENA ROJA FEDERAL #11  
 Located at 880' FNL AND 1480' FEL  
 Section 14, Township 26 South, Range 35 East,  
 N.M.P.M., Lea County, New Mexico.



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DEVON ENERGY  
 PROD. CO., L.P.

SINCLAIR ETAL A #1  
WILSON MAX M

FEDERAL B #1  
FORD D H&HAYNIE E L

SINCLAIR ETAL B #1  
WILSON MAX M

10

11

TALCO UNIT #1  
TEMA OIL AND GAS LLC

12

ARENA ROJA FEDERAL #13  
DEVON ENERGY

SHEARN-FEDERAL #1  
SINCLAIR OIL & GAS C

DEMOOY-FEDERAL #1  
SINCLAIR OIL & GAS C

TALCO UNIT #3  
AMERCN TRADING&PROD

1 Mile

ARENA ROJA FEDERAL UNIT #10  
DEVON ENERGY

ARENA ROJA FEDERAL UNIT #11  
DEVON ENERGY

SAND HILLS UNIT #1  
OLSEN OILS INC

15

3002538610000  
DEVON ENERGY PROD

ARENA ROJA FEDERAL #4  
DEVON ENERGY

14

13

ARENA ROJA FEDERAL UNIT #12  
DEVON ENERGY

22

23

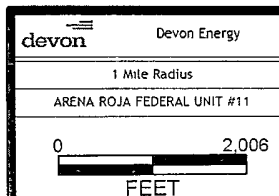
24

YERS-FEDERAL #1  
SINCLAIR OIL & GAS C

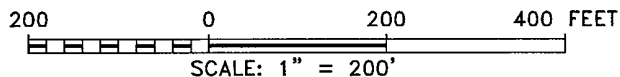
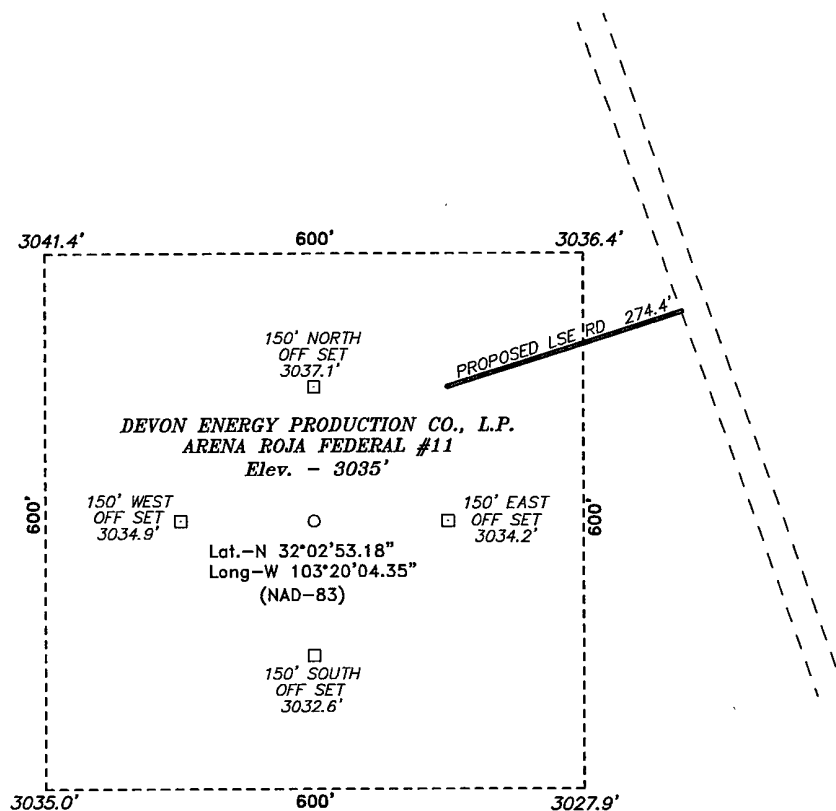
ARENA ROJA FEDERAL UNIT #9  
DEVON ENERGY

FEDERAL #1  
SMITH ROY

ARENA ROJA FEDERAL U #7  
DEVON ENERGY



SECTION 14, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.



Directions to Location:

FROM THE JUNCTION OF BACKHAM AND FRYING PAN,  
GO WEST ON BECKHAM FOR 6.4 MILES TO LEASE  
ROAD, ON LEASE ROAD GO NORTH 2.2 MILES TO  
PROPOSED LEASE ROAD.

**BASIN SURVEYS** P.O. BOX 1786—HOBBS, NEW MEXICO

W.O. Number: 20642

Drawn By: J. M. SMALL

Date: 10-22-2008

Disk: 20642 JMS

**DEVON ENERGY PROD. CO., L.P.**

REF: ARENA ROJA FEDERAL #11 / WELL PAD TOPO

THE ARENA ROJA FEDERAL #11 LOCATED 880' FROM  
THE NORTH LINE AND 1480' FROM THE WEST LINE OF  
SECTION 14, TOWNSHIP 26 SOUTH, RANGE 35 EAST,  
N.M.P.M., LEA COUNTY, NEW MEXICO.

Survey Date: 10-21-2008

Sheet 1 of 1 Sheets

## DRILLING PROGRAM - REVISED

Devon Energy Production Company, LP  
Arena Roja Federal Unit 11

Surface Location: 880' FNL & 1480' FEL, Unit B, Sec 14 T26S R35E, Lea, NM  
Bottom Hole Location: 880' FNL & 1480' FEL, Unit B, Sec 14 T26S R35E, Lea, NM

### 1. Geologic Name of Surface Formation

a. Alluvium

### 2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

|                                     |        |             |
|-------------------------------------|--------|-------------|
| a. Rustler                          | 812'   |             |
| b. Salado                           | 1202'  |             |
| c. Castile                          | 3372'  |             |
| d. Delaware                         | 5092'  | Oil         |
| e. Bone Spring                      | 9122'  | Oil and Gas |
| f. 2 <sup>nd</sup> Bone Spring Lime | 10752' | Oil and Gas |
| g. 3 <sup>rd</sup> Bone Spring Lime | 11232' | Oil and Gas |
| h. Wolfcamp                         | 12237' | Oil and Gas |
| i. Strawn                           | 13577' | Gas         |
| j. Total Depth                      | 14687' |             |

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 9 5/8" casing at 5300' and circulating cement back to surface. The Strawn interval will be isolated by setting 5" casing to total depth and circulating cement back to surface.

### 3. Casing Program: *See COA*

| <u>Hole Size</u> | <u>Hole Interval</u>       | <u>OD Csg</u> | <u>Casing Interval</u>             | <u>Weight</u> | <u>Collar</u> | <u>Grade</u> |
|------------------|----------------------------|---------------|------------------------------------|---------------|---------------|--------------|
| 17 1/2"          | 0' - <del>900'</del> 1132' | 13 3/8"       | 0' - <del>900'</del> 1132'         | 48#           | ST&C          | H-40         |
| 12 1/4"          | 900' - 5300'               | 9 5/8"        | 0' - 5300'                         | 40#           | BT&C          | N-80         |
| 8 3/4"           | 5300' - 12,150'            | 7 5/8"        | 0 - 12,150'                        | 39#           | FJ            | P-110HC      |
| 6 1/2"           | 12150 - 14687'             | 5"            | <del>12150 - 14687'</del><br>11950 | 23.2#         | FJ            | P-110HC      |

### Design Parameter Factors:

| <u>Casing Size</u> | <u>Collapse Design Factor</u> | <u>Burst Design Factor</u> | <u>Tension Design Factor</u> |
|--------------------|-------------------------------|----------------------------|------------------------------|
| 13 3/8"            | 1.60                          | 3.67                       | 6.10                         |
| 9 5/8"             | 1.22                          | 2.27                       | 4.61                         |
| 7 5/8"             | 2.11                          | 2.51                       | 2.24                         |
| 5"                 | 1.91                          | 1.83                       | 2.35                         |

The 9 5/8" intermediate casing will be cemented in place with cement circulated to surface. The cement will be displaced with 8.5 lb/gal fluid. The casing will not be evacuated. Using a 10 lb/gal mud in the annulus between the 9 5/8" casing and the drilled hole with an 8.5 lb/gal fluid being in the 9 5/8" casing, the differential pressure at the shoe is substantially less as a result of the 8.5 lb/gal fluid being in the 9 5/8" casing. Thus the collapse safety factor will exceed 1.25.

4. **Cement Program: (Note yields; and dv tool depths if multiple stages)**

- a. 13 3/8" Surface Lead with 650 sx (35:65) Poz Premium Plus C + 5% NaCl + ¼ lbs/sx Cello Flake, and 4% Bentonite + 1.0% Sodium Metasilicate + 5% MPA-5; 12.8 ppg, 1.97 cf/sx, 10.56 gps. Tail with 300 sx Premium Plus C + 2% CaCl<sub>2</sub> + ¼ lbs/sx Cello Flake; 14.8 ppg, 1.35 cf/sx, 6.35 gps. TOC = 0.
- b. 9 5/8" Intermediate Lead with 1275 sx (50:50) Poz Premium Plus C + 3% Sodium Chloride + 0.05% ASA-301 + ¼ lbs/sx Cello Flake + 10% Bentonite; 12.0 ppg, 2.24 cf/sx, 12.68 gps. Tail with 450 sx (60:40) Poz Premium Plus C + 5% Sodium Chloride + 0.3% Sodium Metasilicate + 4% MPA-5 + ¼ lbs/sx Cello Flake; 13.8 ppg, 1.37 cf/sx, 6.36 gps. TOC = 0.
- c. 7 5/8" 2<sup>nd</sup> Intermediate Lead with 290 sx (50:50) Poz Class H + ¼ lbs/sx Cello Flake + 0.08% ASA-301 + 10% Bentonite + 0.4% R-21 + 0.5% FL-52A; 11.8 ppg, 2.30 cf/sx, 13.1 gps. Tail with 605 sx (15:61:11) Poz Premium Plus C + 0.3% R-3 + 1% KCl + 0.75% EC-1 + ¼ lbs/sx Cello Flake + 0.4% CD-32 + 3 lbs/sx LCM-1 + 0.6% FL-25 + 0.6% FL-52A; 13.3 ppg, 1.56 cf/sx, 7.46 gps. TOC = 4800'.
- d. 5" Liner Cement with 400 sx Class H + 0.75% EC-1 + 0.7% CD-32 + 1.2% FL-62 + 0.1% Sodium Metasilicate + 0.3% R-21; 16.5 ppg, 1.06 cf/sx, 4.14 gps. TOC = ~~12000'~~  
11950 See COA

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach the surface. All casing is new and API approved.

5. **Pressure Control Equipment:**

See COA

The blowout prevention system will consist of a bag type (hydril) preventer, a double ram preventer stack, and a rotating head. Both the hydril and ram stack will be hydraulically operated. Both BOP systems will be rated at 5000 psi. Prior to drilling out the the 13 3/8" surface shoe the ram stack will be nipped up with 4.5" pipe rams installed. Once the 7 5/8" casing is set, 3.5" pipe rams will be used in the BOP. The hydril will be tested to 1000 psi (high) and 250 psi (low). Tests on the 5000 psi BOP will be conducted per the BLM Drilling Operations Order #2.



The ram system will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and hydril, other BOP accessories include a kelly cock, floor safety valve, choke lines and choke manifold rated at 5000 psi WP.

6. **Proposed Mud Circulation System**

See COA

| <u>Depth</u>    | <u>Mud Wt.</u> | <u>Visc</u> | <u>Fluid Loss</u> | <u>Type System</u> |
|-----------------|----------------|-------------|-------------------|--------------------|
| 0' - 900' 1132  | 8.4 - 8.8      | 32 - 34     | NC                | Fresh Water/Gel    |
| 900' - 5300'    | 8.8 - 9.2      | 28 - 30     | NC                | Cut Brine          |
| 5300' - 8160'   | 8.8 - 9.0      | 28          | NC                | Fresh Water        |
| 8160' - 12150'  | 9.0 - 9.2      | 32 - 40     | NC                | Fresh Water        |
| 12150' - 14687' | 11.0 - 14.5    | 33 - 60     | 9 - 12 cc         | Fresh Water        |

The necessary mud products for weight addition and fluid loss control will be on location at all times.

7. **Auxiliary Well Control and Monitoring Equipment:**

- A Kelly cock will be in the drill string at all times.
- A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- Hydrogen Sulfide detection equipment will be in operation after drilling out the 7 5/8" casing shoe until the 5" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

8. **Logging, Coring, and Testing Program:**

See COA

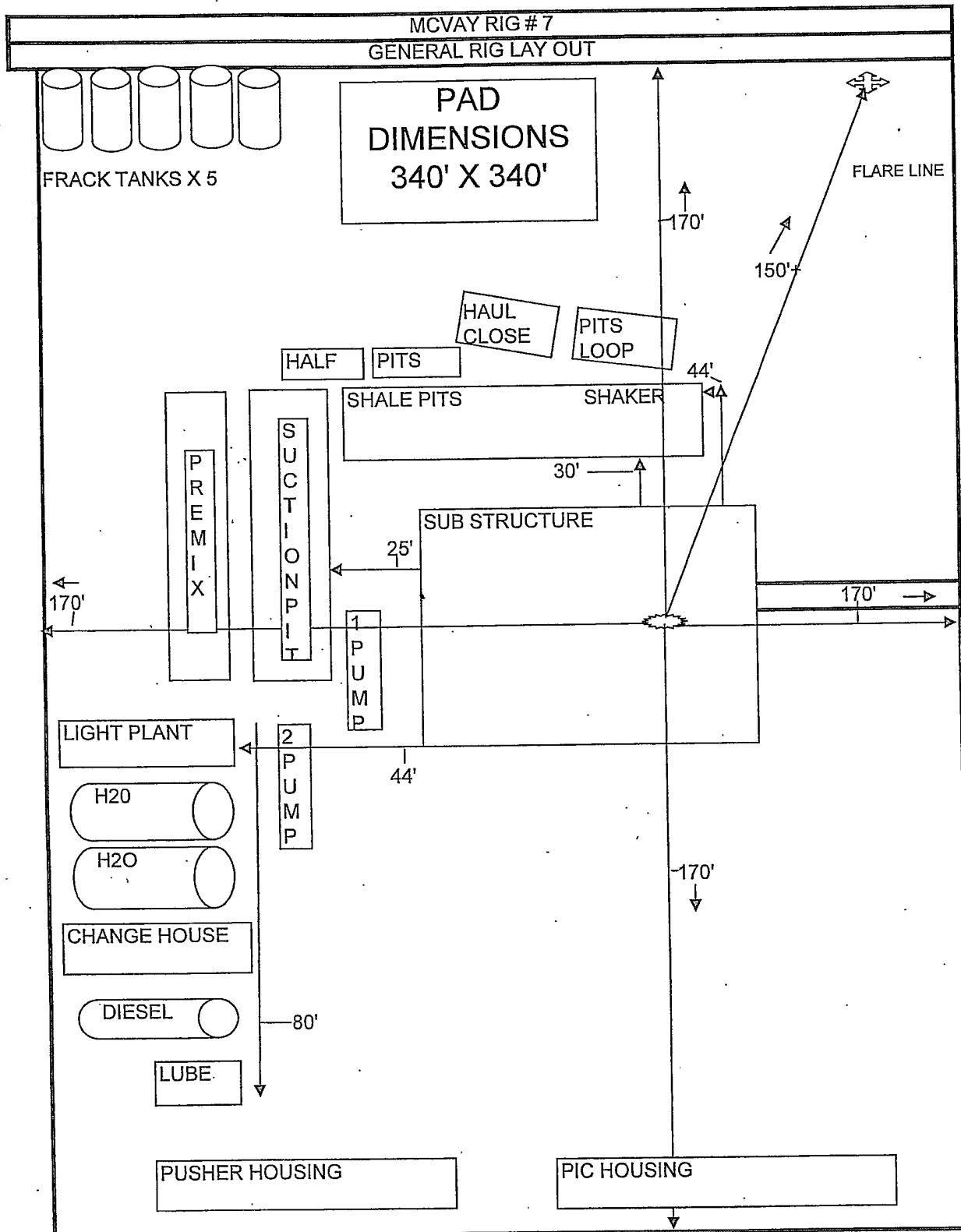
- Drill stem tests will be based on geological sample shows.
- If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.
- The open hole electrical logging program will be:
  - Total Depth to Intermediate Casing      Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron - Z Density log with Gamma Ray and Caliper.
  - Total Depth to Surface      Compensated Neutron with Gamma Ray
  - No coring program is planned
  - Additional testing will be initiated subsequent to setting the 5 1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

9. **Potential Hazards:**

- No abnormal pressures or temperatures are expected. A H2S contingency plan will be provided. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 13,150 psi and Estimated BHT 209°.

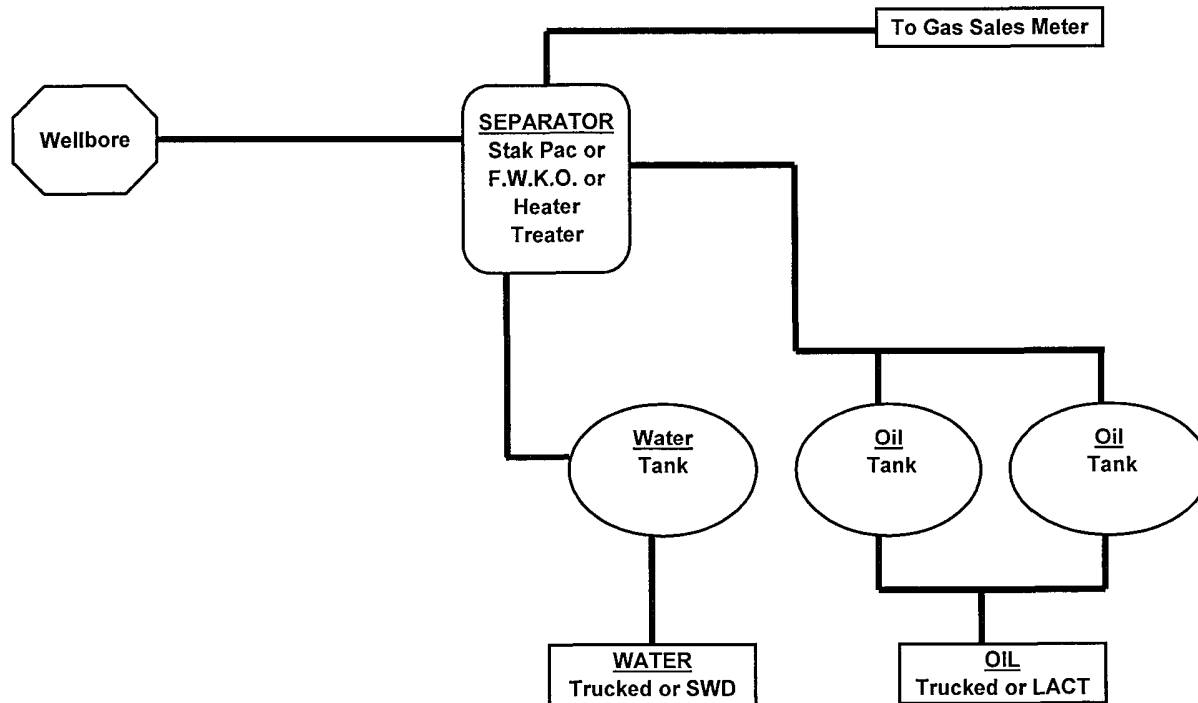
**10. Anticipated Starting Date and Duration of Operations:**

- a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 45 days. If production casing is run then an additional 45 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.



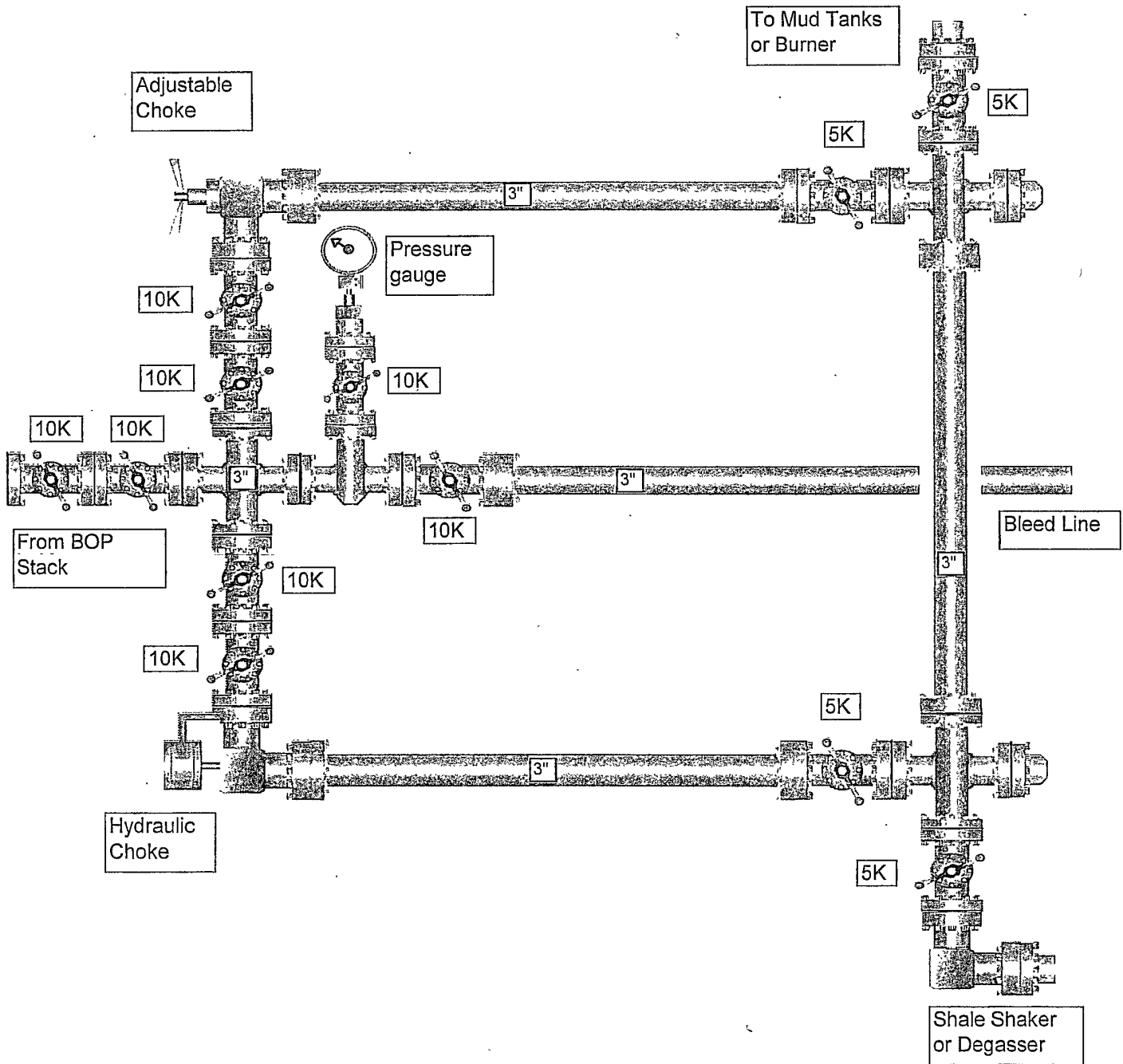
DEVON ENERGY PRODUCTION COMPANY LP

General Production Facilities Diagram

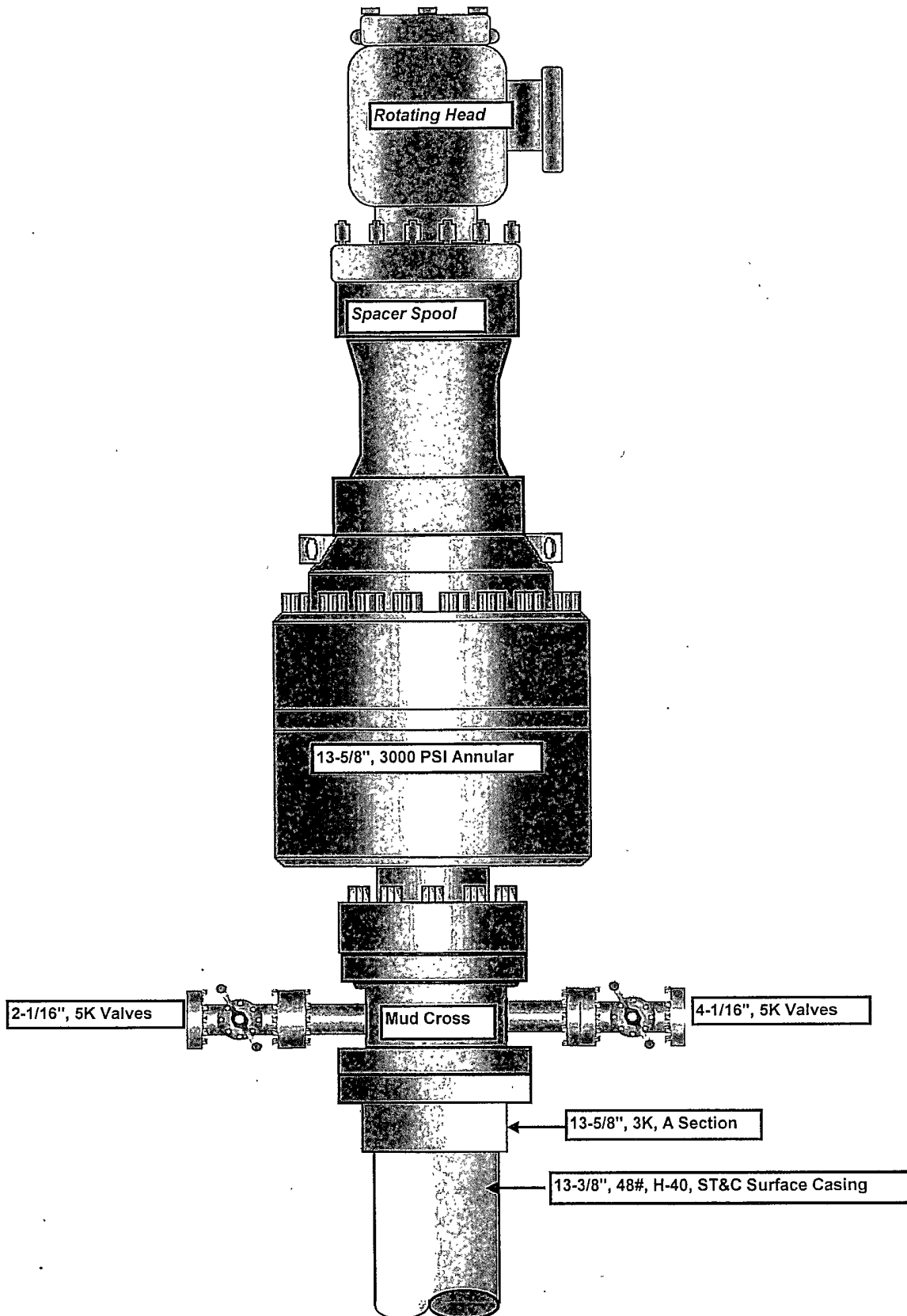


# 40,000 PSI CHOKE MANIFOLD

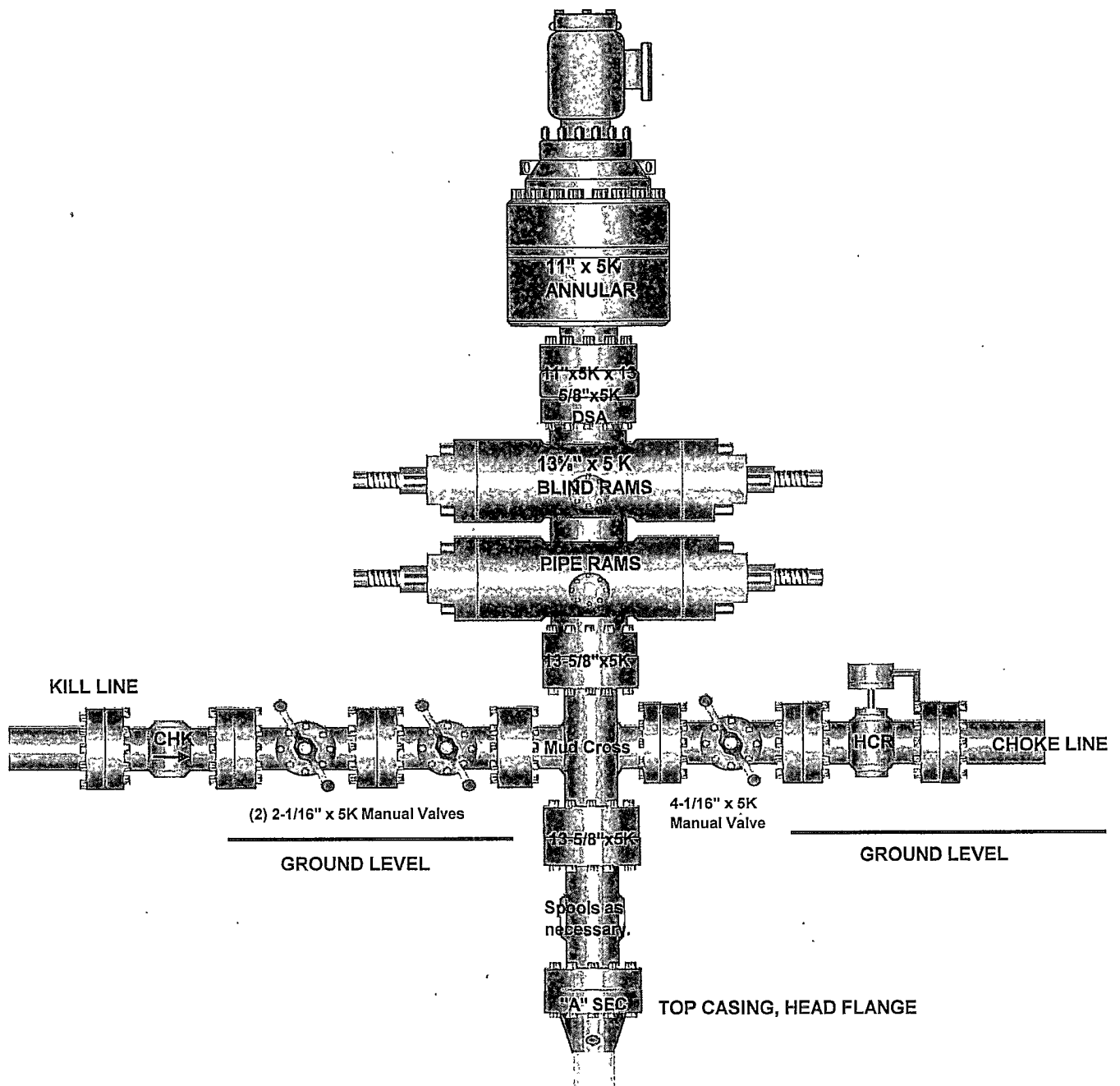
OK as 5M



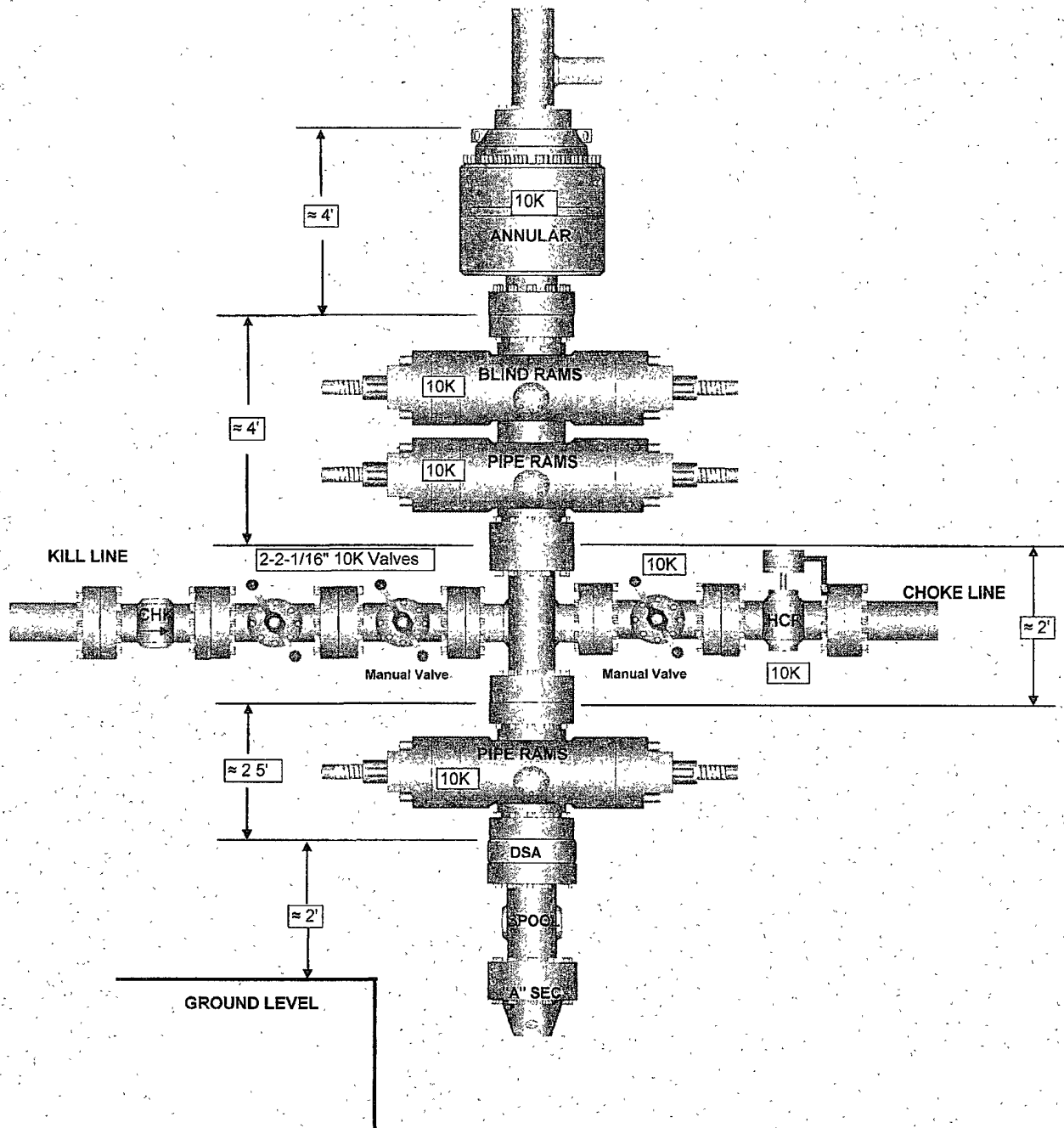
## 13-5/8" 3K Annular



# 11" x 5,000 psi BOP Stack



# BOP STACK SIZE: 10,000#







OCD  
COPY

Devon Energy Corporation  
20 North Broadway  
Oklahoma City, Oklahoma 73102-8260

# Hydrogen Sulfide (H<sub>2</sub>S) Contingency Plan

For

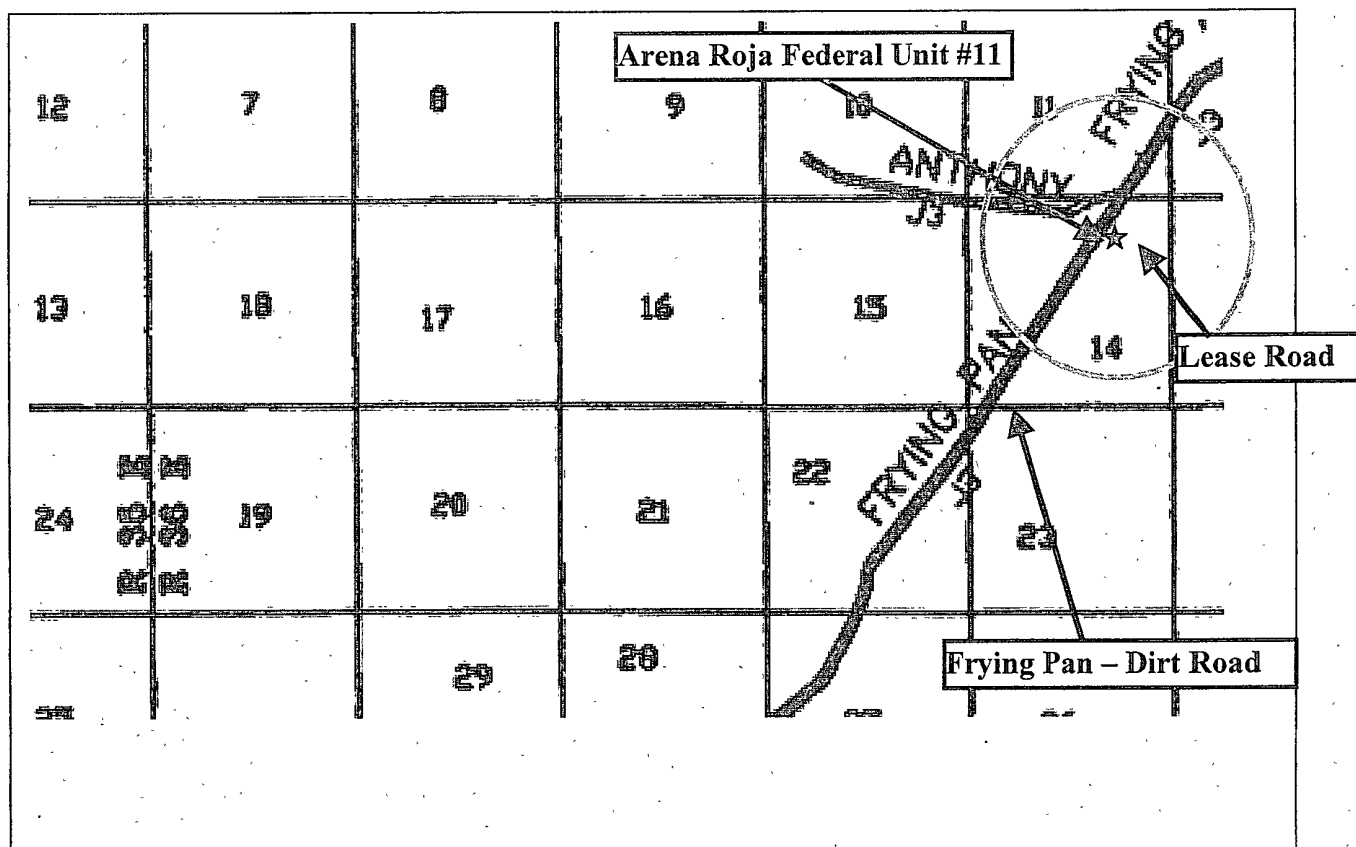
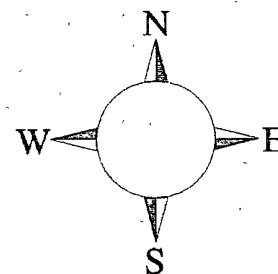
Arena Roja Federal Unit # 11

880'FNL & 1480' FEL,  
Sec-14, T-26S R-35E

Lea County NM

## Arena Roja Federal Unit # 11

This is an open drilling site. H<sub>2</sub>S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H<sub>2</sub>S, including warning signs, wind indicators and H<sub>2</sub>S monitor.



**Assumed 100 ppm ROE = 3000' (Radius of Exposure)**  
**100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.**

### Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated East on lease road then North to Frying Pan Road. Crews should then block entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE There are no homes or buildings in or near the ROE.

## Emergency Procedures

In the case of a release of gas containing H<sub>2</sub>S, the first responder(s) must isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

All responders must have training in the detection of H<sub>2</sub>S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H<sub>2</sub>S monitors and air packs in order to control the release. Use the "buddy system" to ensure no injuries during the response.

## Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

## Characteristics of H<sub>2</sub>S and SO<sub>2</sub>

| Common Name      | Chemical Formula | Specific Gravity | Threshold Limit | Hazardous Limit | Lethal Concentration |
|------------------|------------------|------------------|-----------------|-----------------|----------------------|
| Hydrogen Sulfide | H <sub>2</sub> S | 1.189<br>Air = 1 | 10 ppm          | 100 ppm/hr      | 600 ppm              |
| Sulfur Dioxide   | SO <sub>2</sub>  | 2.21<br>Air = 1  | 2 ppm           | N/A             | 1000 ppm             |

## Contacting Authorities

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

## Devon Energy Corp. Company Call List

| <u>Artesia (575)</u>            | <u>Cellular</u>    | <u>Office</u>      | <u>Home</u>    |
|---------------------------------|--------------------|--------------------|----------------|
| Foreman – Robert Bell.....      | 748-7448 .....     | 748-0178 .....     | 746-2991       |
| Asst. Foreman –Tommy Polly..... | 748-5290 .....     | 748-0165 .....     | 748-2846       |
| Don Mayberry.....               | 748-5235 .....     | 748-0164 .....     | 746-4945       |
| Montral Walker.....             | 390-5182 .....     | 748-0193 .....     | 936-414-6246   |
| Engineer – Marcos Ortiz.....    | (405) 317-0666.... | (405) 552-8152.... | (405) 381-4350 |

## Agency Call List

|               |  |          |
|---------------|--|----------|
| <u>Lea</u>    | <b>Hobbs</b>                                   |          |
| <u>County</u> | State Police.....                              | 392-5588 |
| <u>(575)</u>  | City Police.....                               | 397-9265 |
|               | Sheriff's Office .....                         | 393-2515 |
|               | Ambulance.....                                 | 911      |
|               | Fire Department .....                          | 397-9308 |
|               | LEPC (Local Emergency Planning Committee)..... | 393-2870 |
|               | NMOCD.....                                     | 393-6161 |
|               | US Bureau of Land Management.....              | 393-3612 |

|               |   |                |
|---------------|---|----------------|
| <u>Eddy</u>   | <b>Carlsbad</b>   |                |
| <u>County</u> | State Police .....                                      | 885-3137       |
| <u>(575)</u>  | City Police .....                                       | 885-2111       |
|               | Sheriff's Office.....                                   | 887-7551       |
|               | Ambulance.....  | 911            |
|               | Fire Department.....                                    | 885-2111       |
|               | LEPC (Local Emergency Planning Committee).....          | 887-3798       |
|               | US Bureau of Land Management.....                       | 887-6544       |
|               | New Mexico Emergency Response Commission (Santa Fe) ... | (505)476-9600  |
|               | 24 HR .....   | (505) 827-9126 |
|               | National Emergency Response Center (Washington, DC)     | (800) 424-8802 |

## Emergency Services

|                  |  |                                  |
|------------------|--|----------------------------------|
|                  | Boots & Coots IWC .....                      | 1-800-256-9688 or (281) 931-8884 |
|                  | Cudd Pressure Control.....                   | (915) 699-0139 or (915) 563-3356 |
|                  | Halliburton .....                            | (575) 746-2757                   |
|                  | B. J. Services.....                          | (575) 746-3569                   |
| <i>Give</i>      | Flight For Life - Lubbock, TX .....          | (806) 743-9911                   |
| <i>GPS</i>       | Aerocare - Lubbock, TX .....                 | (806) 747-8923                   |
| <i>position:</i> | Med Flight Air Amb - Albuquerque, NM .....   | (575) 842-4433                   |
|                  | Lifeguard Air Med Svc. Albuquerque, NM ..... | (575) 272-3115                   |

Prepared in conjunction with  
Wade Rohloff of;



## **SURFACE USE PLAN**

Devon Energy Production Company, LP

### **Arena Roja Federal Unit 11**

Surface Location: 880' FNL & 1480' FEL, Unit B, Sec 14 T26S R35E, Lea, NM

Bottom Hole Location: 880' FNL & 1480' FEL, Unit B, Sec 14 T26S R35E, Lea, NM

**1. Existing Roads:**

- a. The well site and elevation plat for the proposed well are reflected on the well site layout; Form C-102. The well was staked by Basin Surveys.
- b. All roads into the location are depicted on Exhibit 3.
- c. Directions to Location: From the junction of Beckham and Frying Pan, go west on Beckham for 6.4 miles to lease road, on lease road go north 2.2 miles to proposed location.

**2. New or Reconstructed Access Roads:**

- a. The well site layout, Form C-102 shows the existing trail road.
- b. The maximum width of the road will be 15'. It will be crowned and made of 6" of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.
- c. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be approximately 1%.
- d. No cattle guards, grates or fence cuts will be required. No turnouts are planned.

**3. Location of Existing Wells:**

One Mile Radius Plat shows all existing and proposed wells within a one-mile radius of the proposed location. See attached plat.

**4. Location of Existing and/or Proposed Production Facilities:**

- a. In the event the well is found productive, a tank battery would be utilized and the necessary production equipment will be installed at the well site. See Production Facilities Layout diagram.
- b. If necessary, the well will be operated by means of an electric prime mover. Electric power poles will be set along side of the access road.
- c. We intend to lay flowlines from the Arena Roja Federal Unit 11 well to the tank battery. All flow lines will adhere to API standards.
- d. If the well is productive, rehabilitation plans are as follows:
  - i. A closed loop system will be utilized.
  - ii. The original topsoil from the well site will be returned to the location. The drill site will then be contoured as close as possible to the original state.

**5. Location and Types of Water Supply:**

This location will be drilled using a combination of water mud systems (outlined in the Drilling Program). The water will be obtained from commercial water stations in the area and hauled to location by transport truck using the existing and proposed roads shown in the C-102. On occasion, water will be obtained from a pre-existing water well, running a pump directly to the drill rig. In these cases where a poly pipeline is used to transport water for drilling purposes, proper authorizations will be secured. If a poly pipeline is used, the size, distance, and map showing route will be provided to the BLM via sundry notice.

**6. Construction Materials:**

All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM approved pit or from prevailing deposits found under the location. All roads will be constructed of 6" rolled and compacted caliche. Will use BLM recommended use of extra caliche from other locations close by for roads, if available.

**7. Methods of Handling Waste Material:**

- a. Drill cuttings will be disposed of in a closed loop system.
- b. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary landfill.
- c. The supplier, including broken sacks, will pick up salts remaining after completion of well.
- d. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- e. Remaining drilling fluids will be sent to a closed loop system. Water produced during completion will be put in a closed loop system. Oil and condensate produced will be put in a storage tank and sold.
- f. Disposal of fluids to be transported by the following companies:
  - i. American Production Service Inc, Odessa TX
  - ii. Gandy Corporation, Lovington NM
  - iii. I & W Inc, Loco Hill NM
  - iv. Jims Water Service of Co Inc, Denver CO

**8. Ancillary Facilities:** No campsite or other facilities will be constructed as a result of this well.

**9. Well Site Layout**

- a. Exhibit D shows the proposed well site layout with dimensions of the pad layout.
- b. This exhibit indicated proposed location of a closed loop system and living facilities.
- c. A closed loop system will be used.

**10. Plans for Surface Reclamation:**

- a. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The reserve pit area will be broken out and leveled after drying to a condition where these efforts are feasible. The

original top soil will again be returned to the pad and contoured, as close as possible, to the original topography. We will use a closed loop system.

- b. The location and road will be reclaimed as recommended by the BLM.
- c. If the well is deemed commercially productive, caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.

**11. Surface Ownership**

- a. The surface is owned by the US Government and is administered by the Bureau of Land Management. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas.
- b. The proposed road routes and the surface location will be restored as directed by the BLM.

**12. Other Information:**

- a. The area surrounding the well site is grassland. The topsoil is very sandy in nature. The vegetation is moderately sparse with native prairie grass, sagebrush, yucca and miscellaneous weeds. No wildlife was observed but it is likely that deer, rabbits, coyotes, and rodents traverse the area.
- b. There is no permanent or live water in the general proximity of the location.
- c. There are no dwellings within 2 miles of location.
- d. A Cultural Resources Examination will be completed by Southern New Mexico Archaeological Services, Inc. and forwarded to the BLM office in Carlsbad, New Mexico.

**13. Bond Coverage:**

Bond Coverage is Nationwide; Bond # is CO-1104

**Operators Representative:**

The Devon Energy Production Company, L.P. representatives responsible for ensuring compliance of the surface use plan are listed below.

Bill Greenlees  
Operations Engineering Advisor

Don Mayberry  
Superintendent

Devon Energy Production Company, L.P.  
20 North Broadway  
Oklahoma City, OK 73102-8260

Devon Energy Production Company, L.P.  
Post Office Box 250  
Artesia, NM 88211-0250

(405) 552-8194 (office)  
(405) 203-7778 (Cellular)

(505) 748-3371 (office)  
(505) 746-4945 (home)

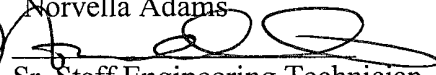
**Certification**

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Devon Energy Production Company, L.P. am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

I hereby also certify that I, or Devon Energy Production Company, L.P. have made a good faith effort to provide the surface owner with a copy of the Surface Use Plan of Operations and any Conditions of Approval that are attached to the APD.

Executed this 21st day of July, 2009.

Printed Name: Norvella Adams

Signed Name: 

Position Title: Sr. Staff Engineering Technician

Address: 20 North Broadway, OKC OK 73102

Telephone: (405) 552-8198

Field Representative: Roger Hernandez

Address: 6488 Seven Rivers Hwy, Artesia, NM

Telephone: 575- 748-0169

E-mail: norvella.adams@dvn.com



## PECOS DISTRICT CONDITIONS OF APPROVAL

|                       |                                     |
|-----------------------|-------------------------------------|
| OPERATOR'S NAME:      | DEVON ENERGY PRODUCTION CO., LP     |
| LEASE NO.:            | NMNM94863                           |
| WELL NAME & NO.:      | ARENA ROJA FEDERAL UNIT 11          |
| SURFACE HOLE FOOTAGE: | 880' FNL & 1480' FEL                |
| BOTTOM HOLE FOOTAGE   |                                     |
| LOCATION:             | Section 14, T. 26 S., R 35 E., NMPM |
| COUNTY:               | Lea County, New Mexico              |

### TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Lesser Prairie Chicken
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- ☒ **Construction**
  - Notification
  - Topsoil
  - Reserve Pit – Closed-loop mud system
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
  - H2S – Onshore Order 6
  - Logging Requirements
  - Casing/Cement
- ☐ **Production (Post Drilling)**
- ☐ **Reserve Pit Closure/Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**

## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

## **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

## **V. SPECIAL REQUIREMENT(S)**

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Hobbs Field Station at (575) 393-3612 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

### **B. TOPSOIL**

The operator shall stockpile the topsoil of the well pad. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

### **C. RESERVE PITS**

The operator has applied for a closed-loop system. The operator shall properly dispose of drilling contents at an authorized disposal site.

### **D. FEDERAL MINERAL MATERIALS PIT**

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (575) 234-5972.

#### **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

#### **F. ON LEASE ACCESS ROADS**

##### **Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

##### **Surfacing**

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

##### **Crowning**

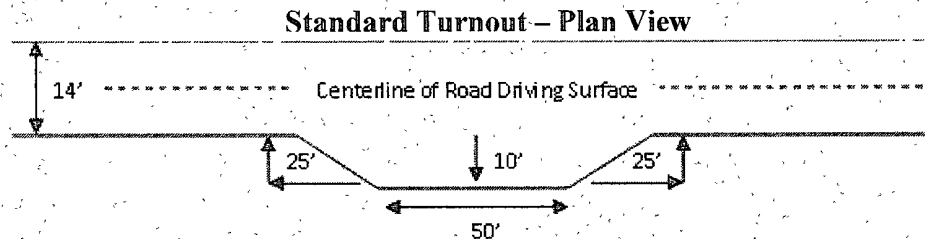
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### Ditching

Ditching shall be required on both sides of the road.

### Turnouts

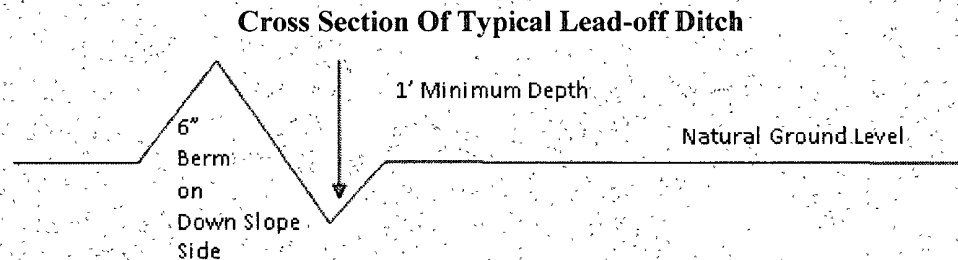
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



### Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

### Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope:  $400' / 4\% + 100' = 200'$  lead-off ditch interval

#### **Culvert Installations**

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

#### **Cattleguards**

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

#### **Fence Requirement**

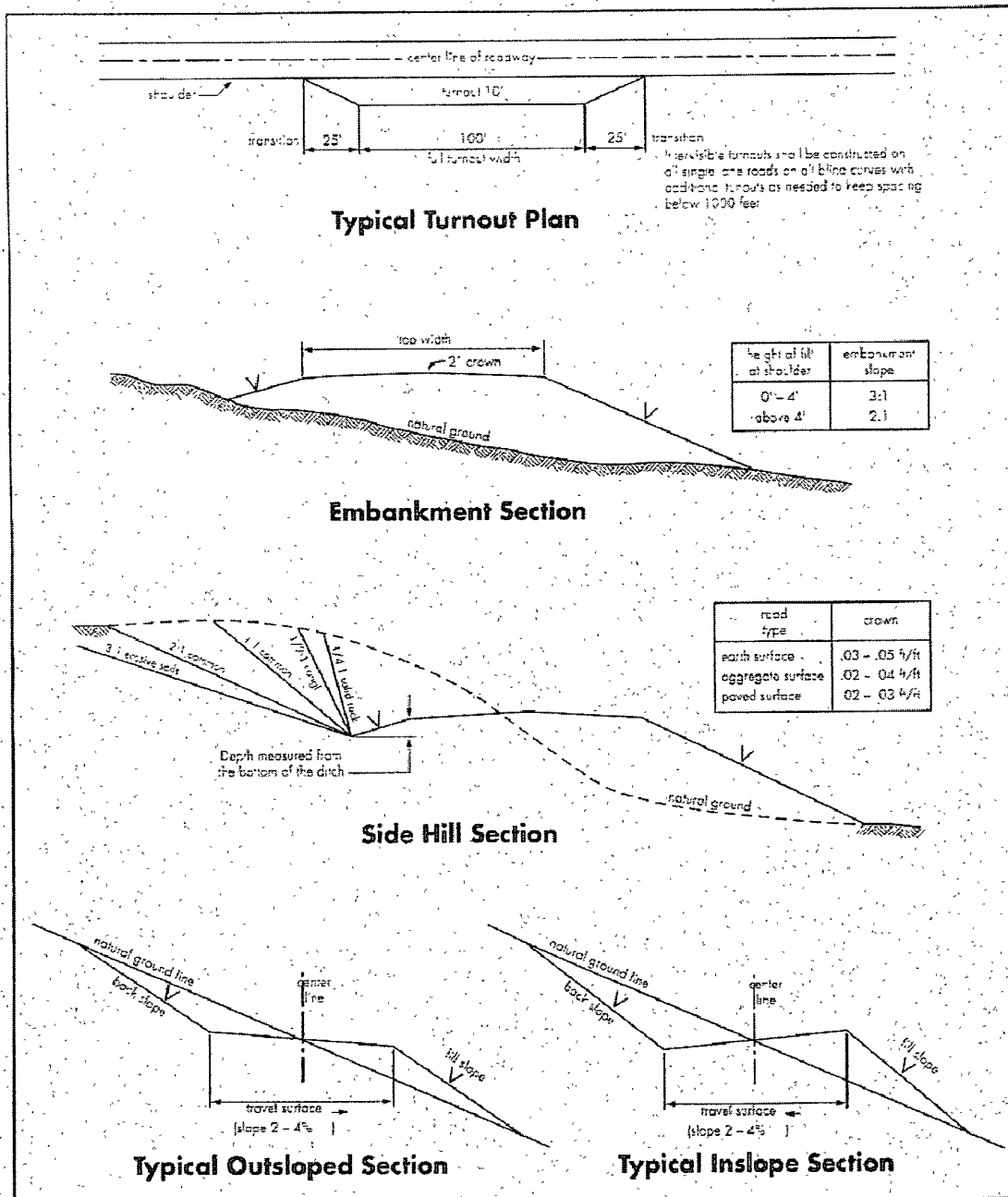
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

#### **Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

**Figure 1 – Cross Sections and Plans For Typical Road Sections**



## VII. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,  
(575) 393-3612

1. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan should be activated 500 feet prior to drilling into the **Strawn** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

### B. CASING

**Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.**

**Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**



**Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.**

**No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.**

**Possible lost circulation in the Red Beds above the Rustler formation.**

**Possible lost circulation and water flows in the Artesian group.**

**Possible high pressure gas bursts within the Wolfcamp formation.**

**Possible over pressure in Pennsylvanian section.**

1. The 13-3/8 inch surface casing shall be set at **approximately 1132 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If salt is penetrated, casing shoe is to be set 25 feet above the top of salt.**
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
  - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
  - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Casing is to be set within the Lamar Limestone.**

**Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.**

3. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:

- ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification. **Casing is to be set within the 3<sup>rd</sup> Bone Springs Lime, above the Wolfcamp formation.**

**Formation below the 7-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.**

4. The minimum required fill of cement behind the 5 inch production casing is:

- ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

#### **C. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi.**
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 inch intermediate casing shoe shall be **5000 (5M) psi. 5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**
4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 7-5/8 inch intermediate casing shoe shall be **10,000 (10M) psi. 10M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. The tests shall be done by an independent service company.
  - b. The results of the test shall be reported to the appropriate BLM office.
  - c. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
  - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.
  - e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.
  - f. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

**D. DRILLING MUD**

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

**E. DRILL STEM TEST**

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

**DHW 112709**

## **VIII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

#### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color  
Shale Green, Munsell Soil Color Chart # 5Y 4/2

## **IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE**

### **A. INTERIM RECLAMATION**

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

## Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

| <u>Species</u>      | <u>lb/acre</u> |
|---------------------|----------------|
| Plains Bristlegrass | 5lbs/A         |
| Sand Bluestem       | 5lbs/A         |
| Little Bluestem     | 3lbs/A         |
| Big Bluestem        | 6lbs/A         |
| Plains Coreopsis    | 2lbs/A         |
| Sand Dropseed       | 1lbs/A         |

\*\*Four-winged Saltbush 5lbs/A

\* This can be used around well pads and other areas where caliche cannot be removed.

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

## **X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS**

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.