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Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER


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

| | | |
|---|--|--|
| 1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER | | 5. Lease Serial No NMNM-98189 |
| 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone | | 6. If Indian, Allottee or Tribe Name |
| 2. Name of Operator Devon Energy Production Company, LP | | 7. If Unit or CA Agreement, Name and No. |
| 3a. Address 20 North Broadway Oklahoma City, Oklahoma 73103-8260 | | 8. Lease Name and Well No. Nana 30 Fed 3 |
| 3b. Phone No. (include area code) (405) 552-8198 | | 9. API Well No. 30-025-39580 |
| 4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 2040 FSL & 1980 FWL At proposed prod. zone 2040 FSL & 1980 FWL | | 10. Field and Pool, or Exploratory Lusk; Bone Spring, North |
| 11. Sec., T. R. M. or Blk. and Survey or Area Sec 30 T18S R32E | | 12. County or Parish Lea |
| 13. State NM | | 14. Distance in miles and direction from nearest town or post office* Approximately 10 miles south of Maljamar, NM |
| 15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) 600' | 16. No. of acres in lease 241.110 | 17. Spacing Unit dedicated to this well 40 |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 1365' | 19. Proposed Depth 10, 200' | 20. BLM/BIA Bond No. on file CO-1104 |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3689' GL | 22. Approximate date work will start* 01/01/2010 | 23. Estimated duration 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:

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

| | | |
|--|---|---------------------------|
| 25. Signature  | Name (Printed/Typed) Norvella Adams | Date 09/28/2009 |
| Title Senior Staff Engineering Technician | | |

| | | |
|---|--|----------------------------|
| Approved by (Signature) /s/ Don Peterson | Name (Printed/Typed) CARLSBAD FIELD OFFICE | Date NOV 13 2009 |
| Title FIELD MANAGER | 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. **MW/OCD 11-24-09** **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)

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

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NOV 17 2009

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

HOBBSOCD

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

| | | |
|------------------------------------|---|--|
| API Number 30-025-395810 | Pool Code 41450 | Pool Name Lusk; Bone Springs, North ✓ |
| Property Code 378D8 | Property Name NANA "30" FED. | Well Number 3 |
| OGRD No. 6137 | Operator Name DEVON ENERGY PRODUCTION COMPANY LP | Elevation 3689' |

Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| K | 30 | 18 S | 32 E | | 2040 | SOUTH | 1980 | WEST | LEA |

Bottom Hole Location If Different From Surface

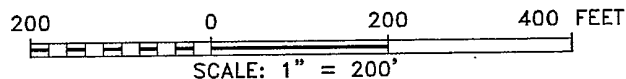
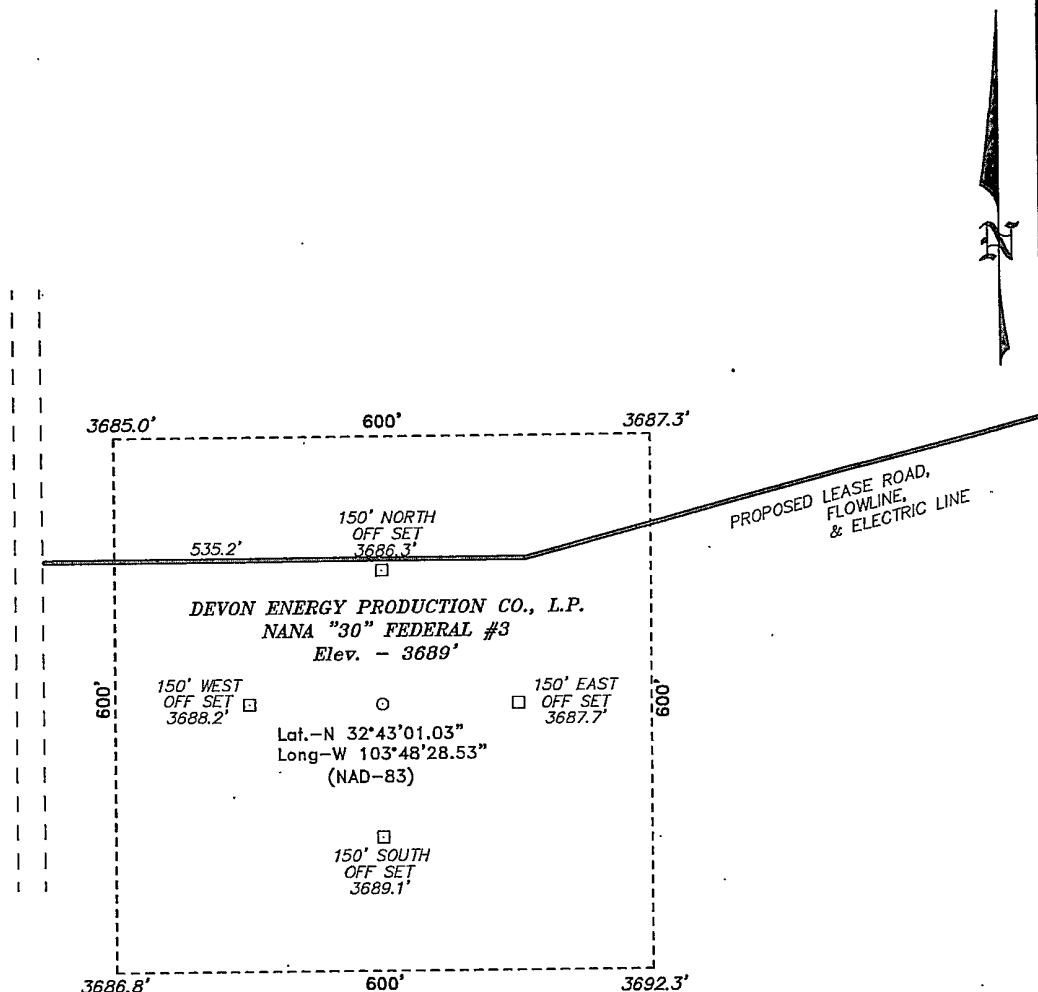
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| | | | | | | | | | |

| | | | |
|-----------------------|-----------------|--------------------|-----------|
| Dedicated Acres 40 | 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

| | |
|--|---|
| | OPERATOR CERTIFICATION 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. Signature _____ Date 9-28-09 Norvella Adams Printed Name |
| | SURVEYOR CERTIFICATION 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. Date Surveyed OCTOBER 29, 2008 Signature & Seal of Professional Surveyor _____ W.O. 1574 Certificate No. Gary L. Jones 7977 BASIN SURVEYS |

SECTION 30, TOWNSHIP 18 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



Directions to Location:

FROM THE JUNCTION OF HWY 529 AND MALJAMAR,
GO SOUTHERLY ON MALJAMAR FOR APPROX 5.3
MILES TO LEASE ROAD, ON LEASE ROAD GO
SOUTHWESTERLY 0.6 MILES TO LEASE ROAD, ON
LEASE ROAD GO NORTHERLY 0.4 MILES TO
PROPOSED LEASE ROAD.

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

W.O. Number: 20674 Drawn By: J. M. SMALL

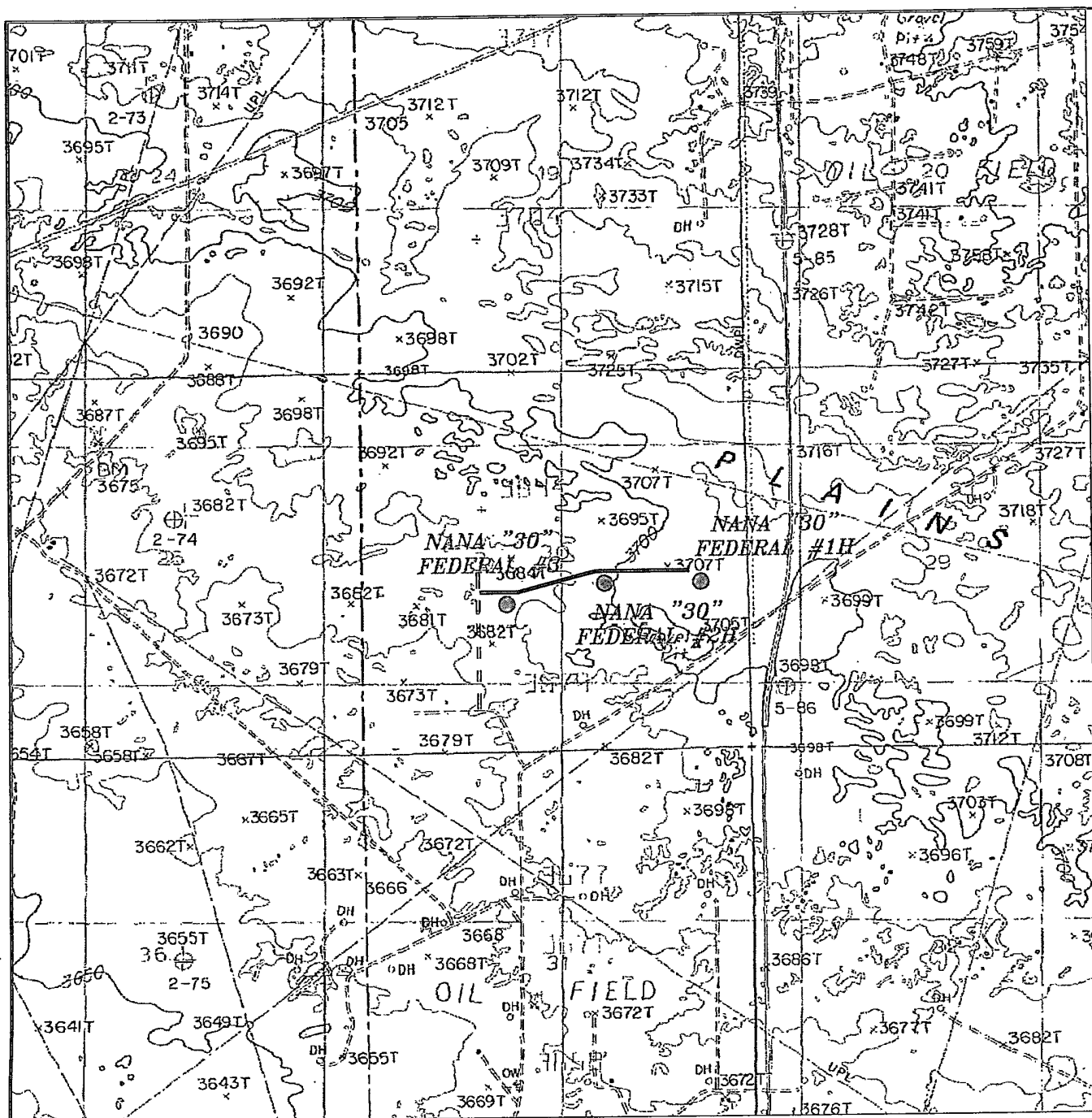
Date: 11-04-2008 Disk: 20674 JMS

DEVON ENERGY PROD. CO., L.P.

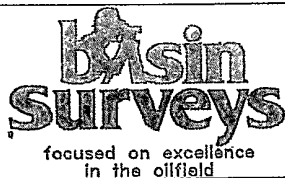
REF: NANA "30" FED #3 / WELL PAD TOPO

THE NANA "30" FEDE #3 LOCATED 2040' FROM
THE SOUTH LINE AND 1980' FROM THE WEST LINE OF
SECTION 30, TOWNSHIP 18 SOUTH, RANGE 32 EAST,
N.M.P.M., LEA COUNTY, NEW MEXICO.

Survey Date: 10-29-2008 Sheet 1 of 1 Sheets



NANA "30" FED #3
 Located at 2040' FSL AND 1980' FWL
 Section 30, Township 18 South, Range 32 East,
 N.M.P.M., Lea County, New Mexico.



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

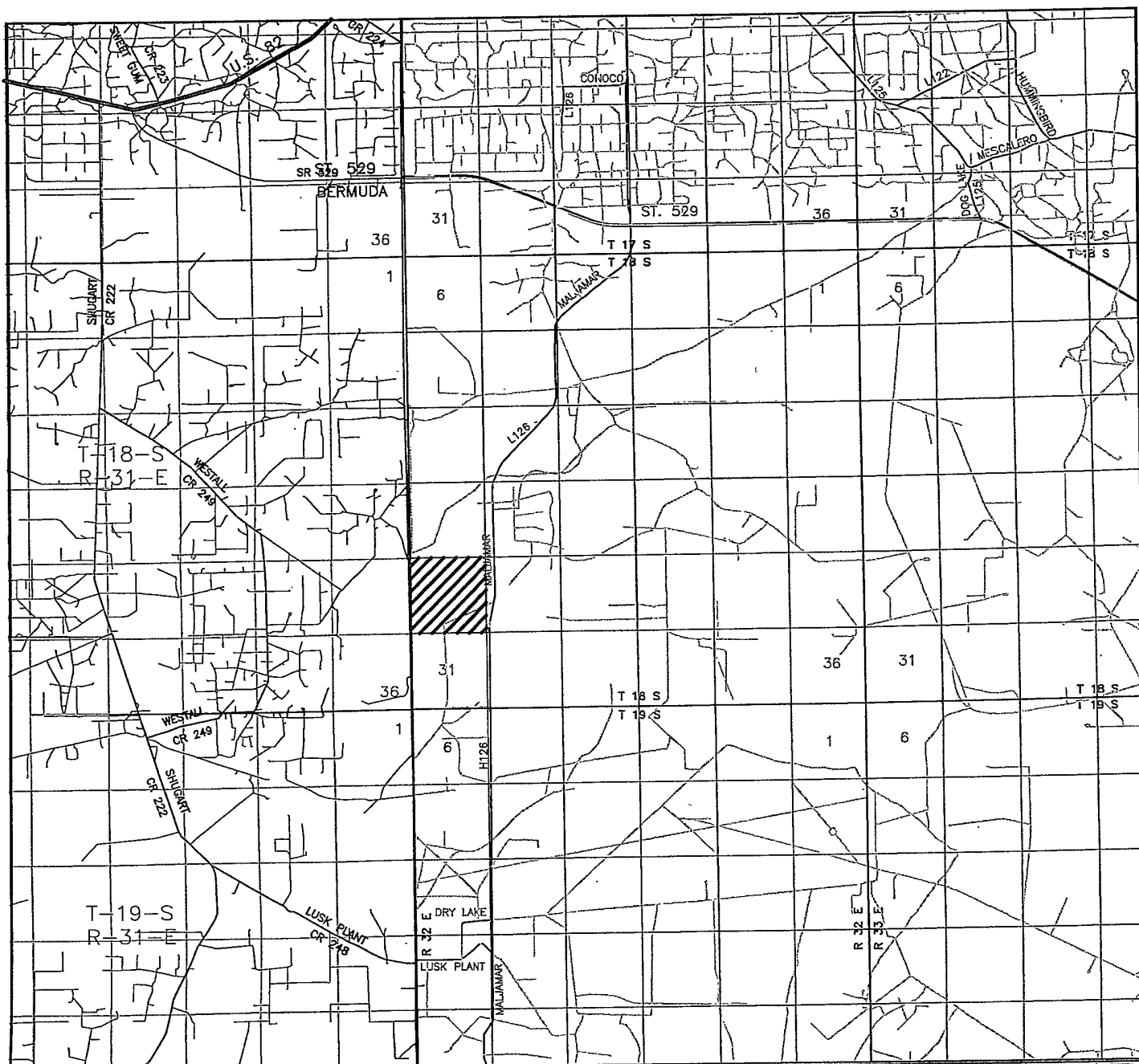
W.O. Number: JMS 20674

Survey Date: 10-29-2008

Scale: 1" = 2000'

Date: 11-04-2008

DEVON ENERGY
 PROD. CO., L.P.



NANA "30" FED. #3
 Located at 2040' FSL AND 1980' FWL
 Section 30, Township 18 South, Range 32 East,
 N.M.P.M., Lea County, New Mexico.



focused on excellence
 in the oilfield

P.O. Box 1786
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 Hobbs, New Mexico 88241
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 (575) 392-2206 - Fax
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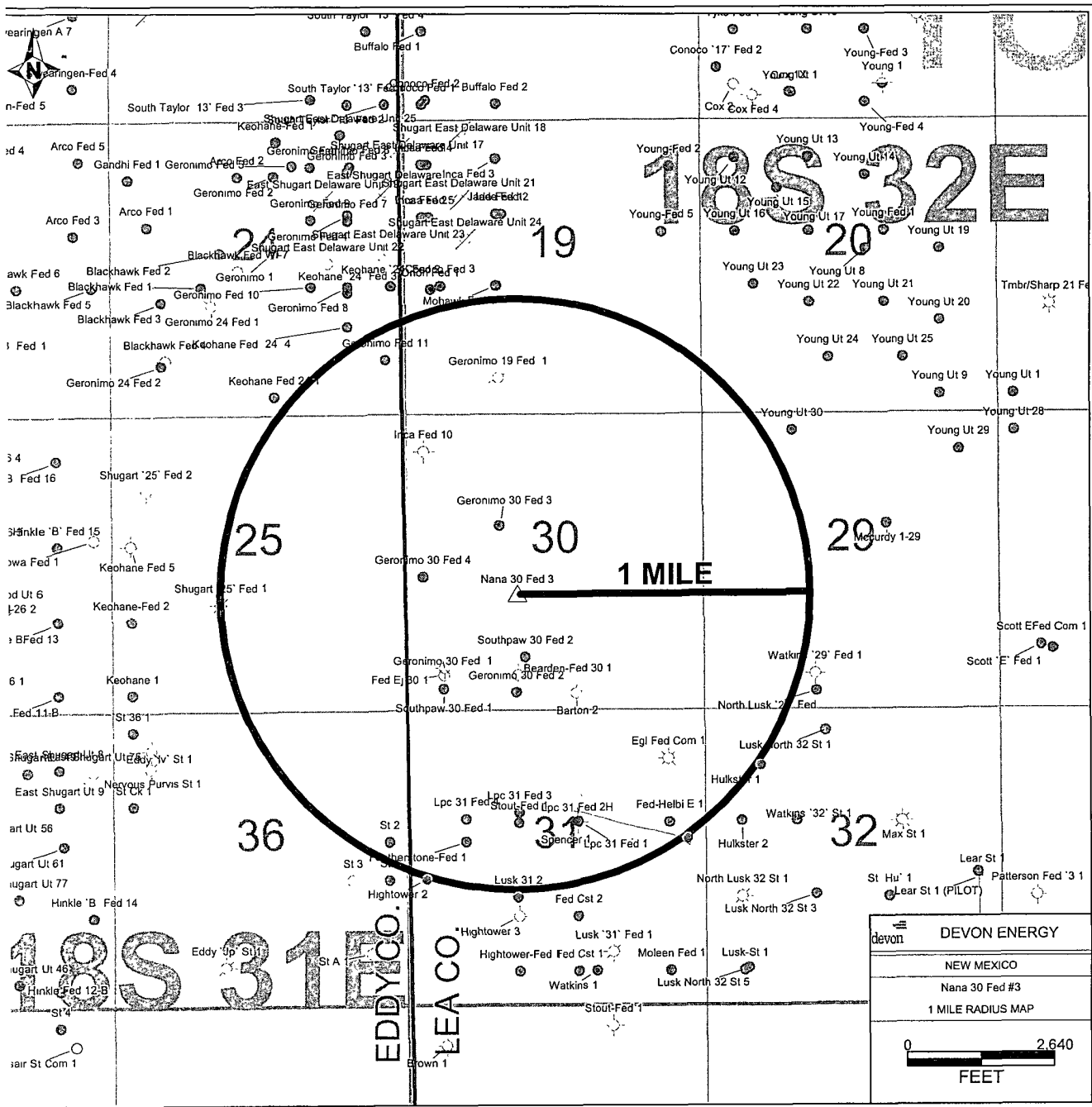
W.O. Number: JMS 20674

Survey Date: 10-29-2008

Scale: 1" = 2000'

Date: 11-04-2008

DEVON ENERGY
 PROD. CO., L.P.



DRILLING PROGRAM

Devon Energy Production Company, LP

Nana 30 Fed 3

Surface Location: 2040' FSL & 1980' FWL, Unit K, Sec 30 T18S R32E, Lea, NM

Bottom Hole Location: 2040' FSL & 1980' FWL, Unit K, Sec 30 T18S R32E, Lea, NM

There is a Plan of Development in place for this well.

1. Geologic Name of Surface Formation

- a. Quaternary Alluvium

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

| | | |
|-----------------------------------|-------|-------------|
| a. Quaternary | 20' | Fresh Water |
| b. Rustler | 971' | Fresh Water |
| c. Salado Salt | 1247' | |
| d. Tansil Dol. | 2440' | |
| e. Yates Ss | 2582' | |
| f. Seven Rivers | 3041' | |
| g. Queen Ss | 3614' | |
| h. Grayburg | 3688' | |
| i. Cherry Canyon | 4431' | |
| j. Brushy Canyon | 5150' | |
| k. 1 st Bone Spring Lm | 6651' | Oil |
| l. 1 st Bone Spring Ss | 8072' | Oil |
| m. 2 nd Bone Spring Lm | 8373' | Oil |
| n. 2 nd Bone Spring Ss | 8910' | Oil |
| o. 3 rd Bone Spring Lm | 9360' | Oil |
| p. 3 rd Bone Spring Ss | 9613' | Oil |

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 8 5/8" casing at 3200' and circulating cement back to surface. The Bone Spring intervals will be isolated by setting 5 1/2" casing to total depth and circulating cement 2800'. *See COA*

3. Casing Program:

| <u>Hole</u> <u>Size</u> | <u>Hole</u> <u>Interval</u> | <u>OD</u> <u>Csg</u> | <u>Casing</u> <u>Interval</u> | <u>Weight</u> | <u>Collar</u> | <u>Grade</u> |
|----------------------------|--------------------------------|-------------------------|----------------------------------|---------------|---------------|--------------|
| 14 3/4" | 0' - 1050' | 11 3/4" | 0' - 1050' | 42# | ST&C | H-40 |
| 11" | 1050' - 2600' | 8 5/8" | 0' - 2600' | 24# & 32# | LT&C | J-55 |
| 7 7/8" | 2600' - 10,200' | 5 1/2" | 0 - 10,200' | 17# | LT&C | N-80 |
| → Per Operator | | 8 5/8" | 0 - 1100' | 24# | ST&C | J-55 |
| | | 8 5/8" | 1100 - 2600' | 32# | LT&C | J-55 |

Design Parameter Factors:

| <u>Casing Size</u> | <u>Collapse Design</u> | <u>Burst Design</u> | <u>Tension Design</u> |
|--------------------|------------------------|---------------------|-----------------------|
| | <u>Factor</u> | <u>Factor</u> | <u>Factor</u> |
| 11 3/4" | 1.98 | 3.66 | 6.35 |
| 8 5/8" | 1.48 | 2.36 | 4.27 |
| 5 1/2" | 1.28 | 1.57 | 2.04 |

4. Cement Program:

- a. 11 3/4" Surface Lead with 415 sx (35:65) Poz Class C + 5% NaCl + 1/4 lbs/sx Celloflake, and 4% Bentonite + 1% Sodium Metasilicate + 5% MPA-5; 12.8 ppg, 1.83 cf/sx, 10.56 gps. Tail with 200 sx Class C + 2% CaCl₂ + 1/4 lbs/sx Celloflake; 14.8 ppg, 1.35 cf/sx, 6.35 gps. TOC = 0.
- b. 8 5/8" Intermediate Lead with 460 sx (35:65) Poz Class C + 2% CaCl₂ + 1/4 lbs/sx Cello Flake + 6% Bentonite + 5% NaCl; 12.5 ppg, 1.97 cf/sx, 11.24 gps. Tail with 300 sx Class C + 1/4 lbs/sx Cello Flake; 14.8 ppg, 1.35 cf/sx, 6.35 gps. TOC = 0.
- c. 5 1/2" Production Stage 1: 450 sx (15:61:11) Class C + 1% KCl + 0.75% EC-1 + 0.4% CD-32 + 3 #/sx LCM-1 + 0.6% FL-25 + 0.6% FL-52A; 13.30 ppg, 1.65 cf/sx, 7.55 gps.. Stage 2: Lead with 800 sx (35:65) Poz Class C + 1/4 #/sx Cello Flake + 6% Bentonite; 12.50 ppg, 1.94 cf/sx, 10.65 pgs. Tail with 150 sx (60:40) Poz Class C + 2% NaCl + 0.1% Sodium Metasilicate + 4% MPA-5; 13.8 ppg, 1.35 cf/sx, 6.29 gps. TOC = 2,100. DV tool set at 6,950'.

The above cement volumes could be revised pending the caliper measurement from the open hole logs. All casing is new and API approved.

5. Pressure Control Equipment:

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 11 3/4" surface shoe the ram stack will be nipped up with 4.5" pipe rams installed. **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.**

See
COA

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

| <u>Depth</u> | <u>Mud Wt.</u> | <u>Visc</u> | <u>Fluid Loss</u> | <u>Type System</u> |
|---------------------------|----------------|-------------|-------------------|---------------------|
| 0' – 1050' | 8.4 - 9.0 | 32-34 | NC | Fresh Water |
| 1050' – 2600' | 8.8 – 9.2 | 28-30 | NC | Fresh Water / Brine |
| See COA - 2600' – 10,200' | 8.6 - 9.0 | 28 | NC-12 cc | Fresh Water / Brine |

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 8 5/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 8 5/8" shoe until total depth is reached.

8. Logging, Coring, and Testing Program:

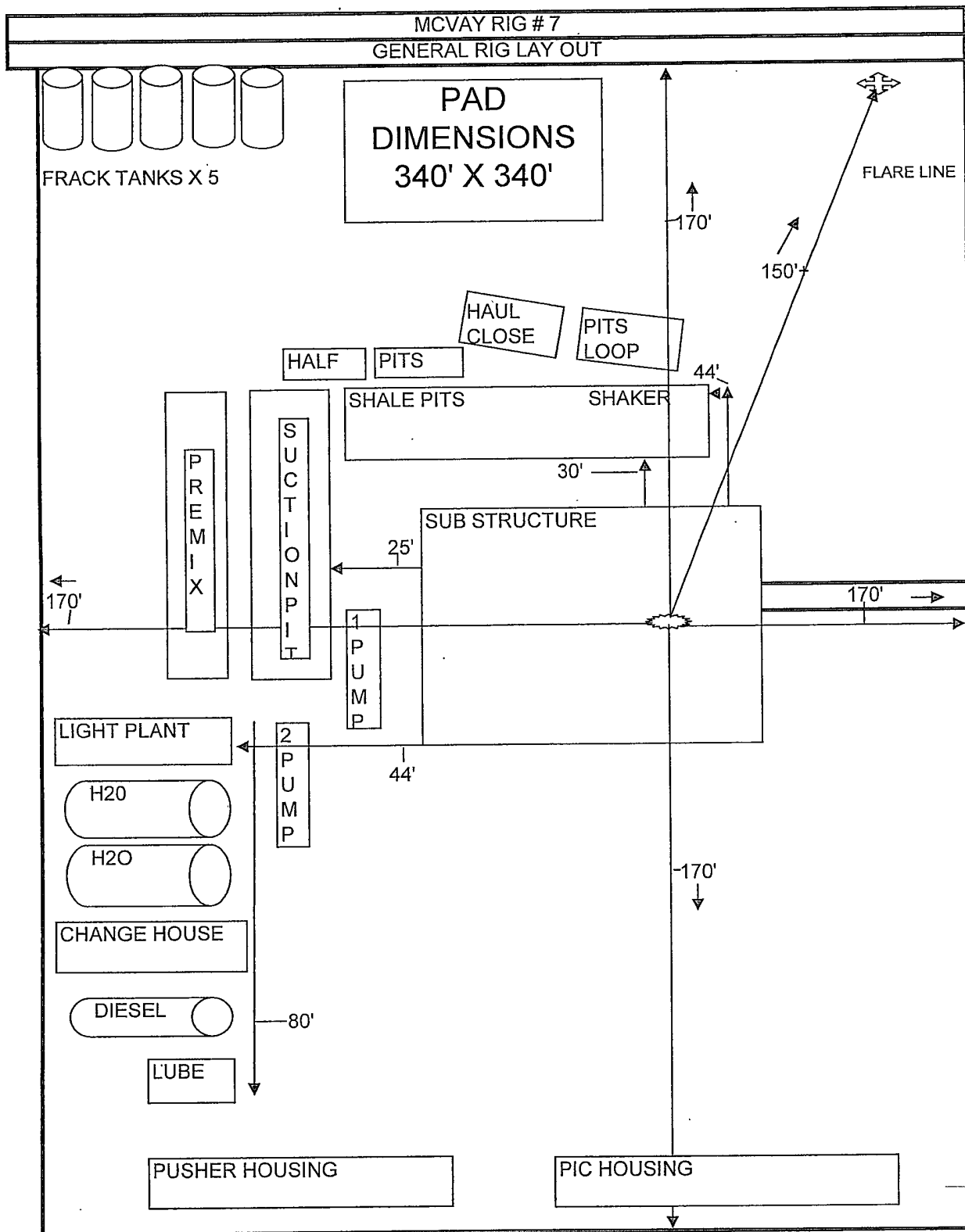
- Drill stem tests will be based on geological sample shows.
- If a drill stem test is anticipated; a procedure, equipment to be used and safety measures will be provided via sundry notice to the BLM.
- See COA - The open hole electrical logging program will be:
 - Total Depth to Intermediate Casing 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:

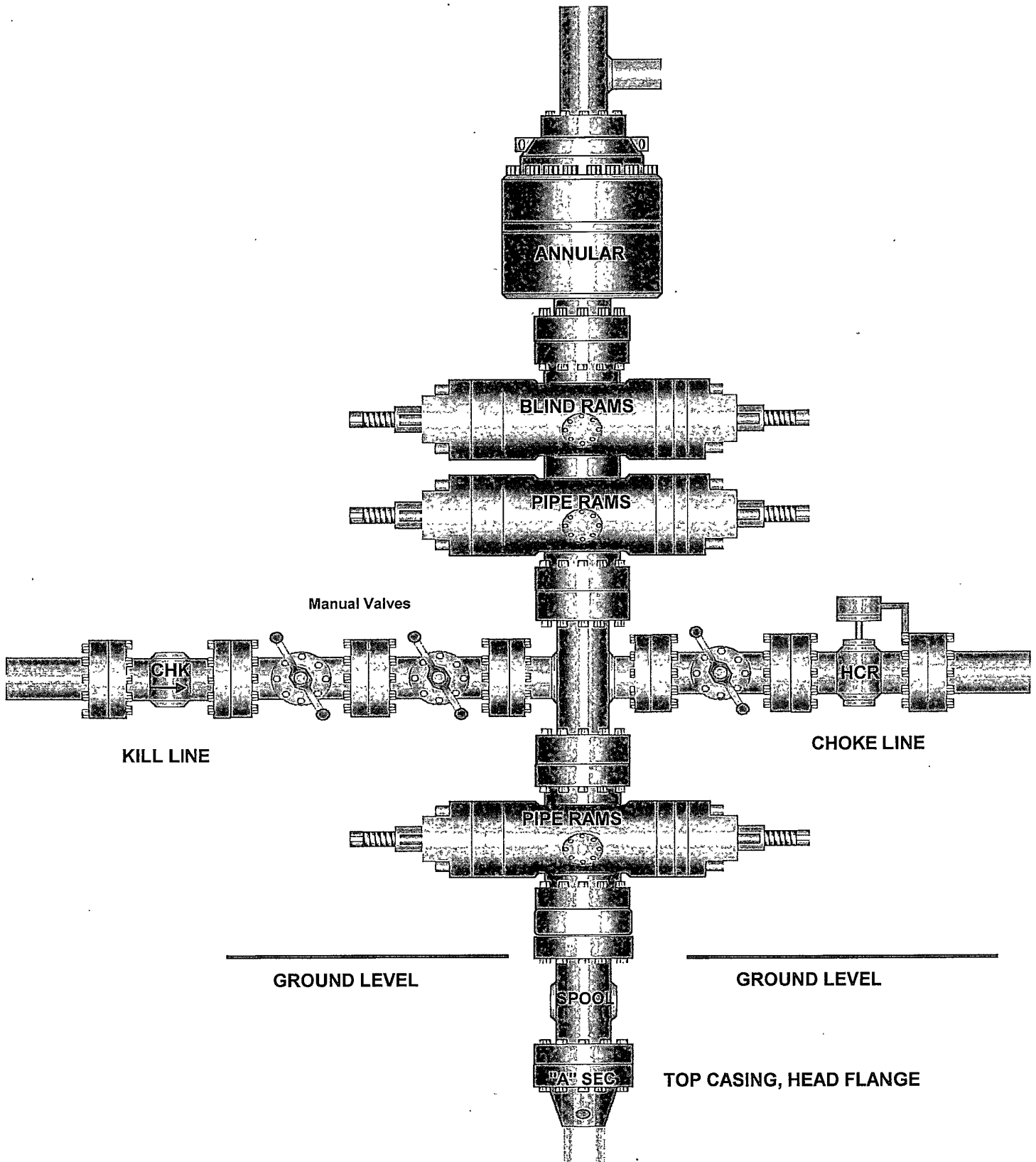
- See COA - No abnormal pressures or temperatures are expected. A H2S contingency plan will be provided. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 4600 psi and Estimated BHT 130°.

10. Anticipated Starting Date and Duration of Operations:

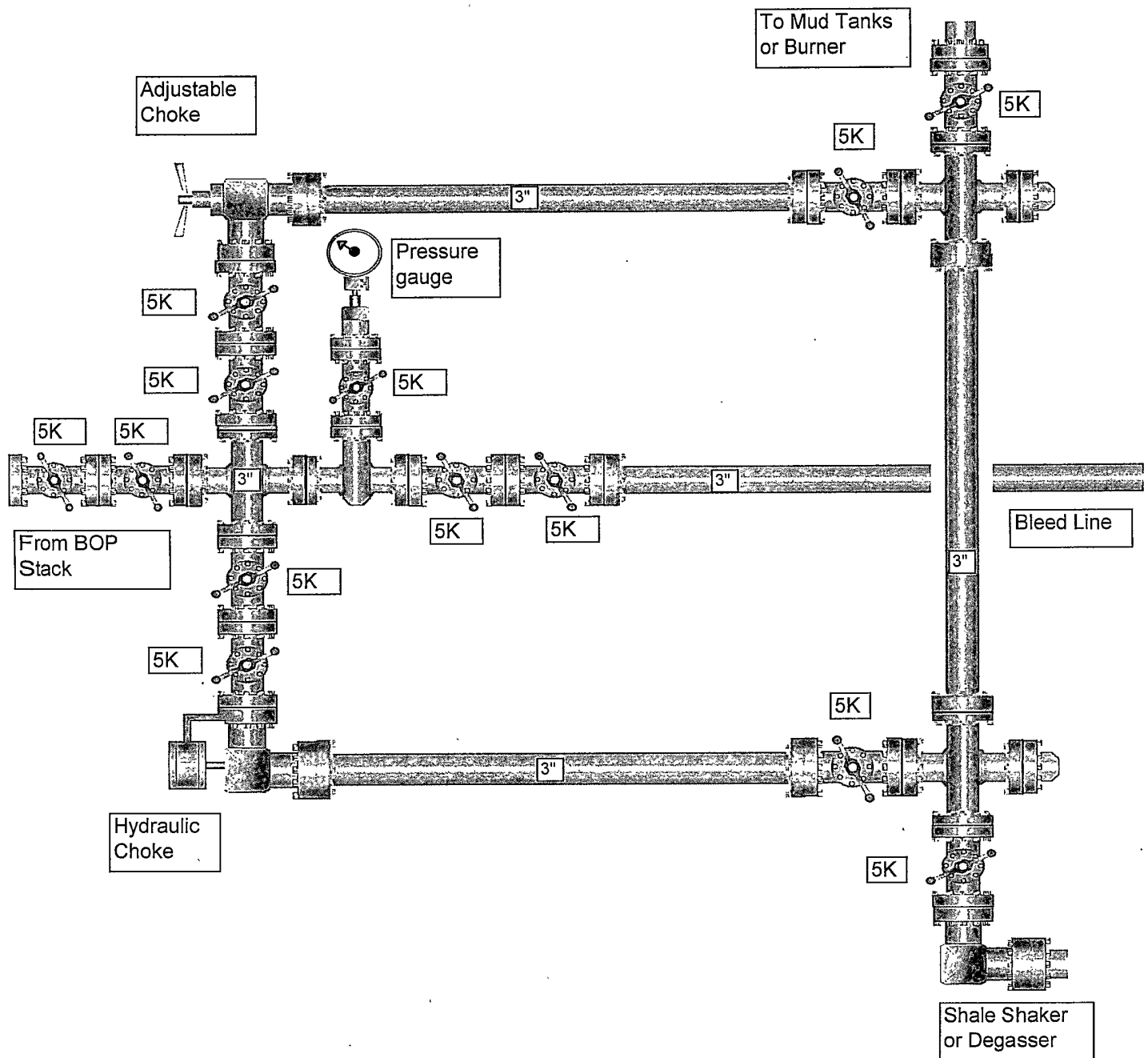
- Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 30 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.



13-5/8" x 5,000 psi BOP Stack



5,000 PSI CHOKE MANIFOLD





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

Hydrogen Sulfide (H₂S) Contingency Plan

For

Nana "30" Federal # 3

**2040' FSL & 1980' FWL,
Sec-30, T-18S R-32E**

Lea County NM

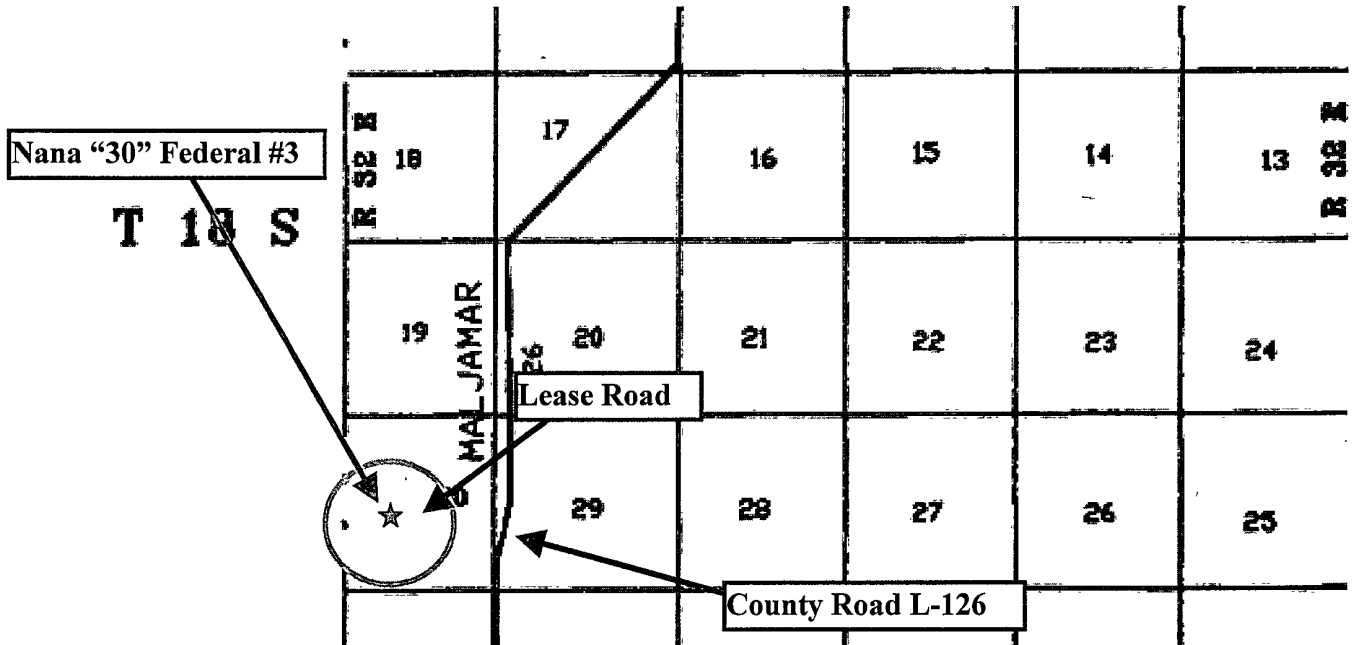
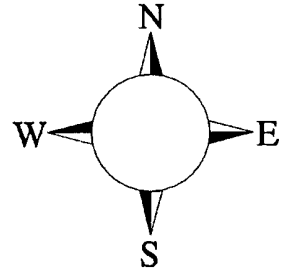
Bureau of Land Management
RECEIVED

OCT 16 2009

Carlsbad Field Office
Carlsbad, N.M.

Nana "30" Federal # 3

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H₂S, including warning signs, wind indicators and H₂S monitor.



Assumed 100 ppm ROE = 3000' (Radius of Exposure)
100 ppm H₂S 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 to County Road L126. 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.

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H₂S monitors and air packs in order to control the release.**
- **Use the "buddy system" to ensure no injuries occur during the response**
- **Take precautions to avoid personal injury during this operation.**
- **Contact operator and/or local officials to aid in operation. See list of phone numbers attached.**
- **Have received training in the**
 - **Detection of H₂S, and**
 - **Measures for protection against the gas,**
 - **Equipment used for protection and emergency 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 (SO₂). 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 H₂S and SO₂

| Common Name | Chemical Formula | Specific Gravity | Threshold Limit | Hazardous Limit | Lethal Concentration |
|-------------------------|-------------------------|--------------------------|------------------------|------------------------|-----------------------------|
| Hydrogen Sulfide | H₂S | 1.189 Air = 1 | 10 ppm | 100 ppm/hr | 600 ppm |
| Sulfur Dioxide | SO₂ | 2.21 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-Roger Hernandez... | 748-5238 | 748-0169 | 396-7169 |
| Asst. Foreman - Ernie Duran... | 513-1768 | 748-0191 | 746-4589 |
| Don Mayberry | 748-5235 | 748-0164 | 746-4945 |
| Montral Walker | 390-5182 | 748-0193 | 936-414-6246 |
| Engineer - Ron Hays..... | (405) 464-4214.... | (405) 552-8150.... | (405) 359-7015 |

Agency Call List

| <u>Lea</u> | <u>Hobbs</u> |
|---------------|---|
| <u>County</u> | State Police |
| <u>(575)</u> | City Police |
| | Sheriff's Office |
| | Ambulance..... |
| | Fire Department..... |
| | LEPC (Local Emergency Planning Committee) |
| | NMOCD |
| | US Bureau of Land Management |

| <u>Eddy</u> | <u>Carlsbad</u> |
|---------------|---|
| <u>County</u> | State Police |
| <u>(575)</u> | City Police |
| | Sheriff's Office |
| | Ambulance..... |
| | Fire Department..... |
| | LEPC (Local Emergency Planning Committee)..... |
| | US Bureau of Land Management |
| | New Mexico Emergency Response Commission (Santa Fe) ... |
| | 24 HR |
| | National Emergency Response Center (Washington, DC) .. |

Emergency Services

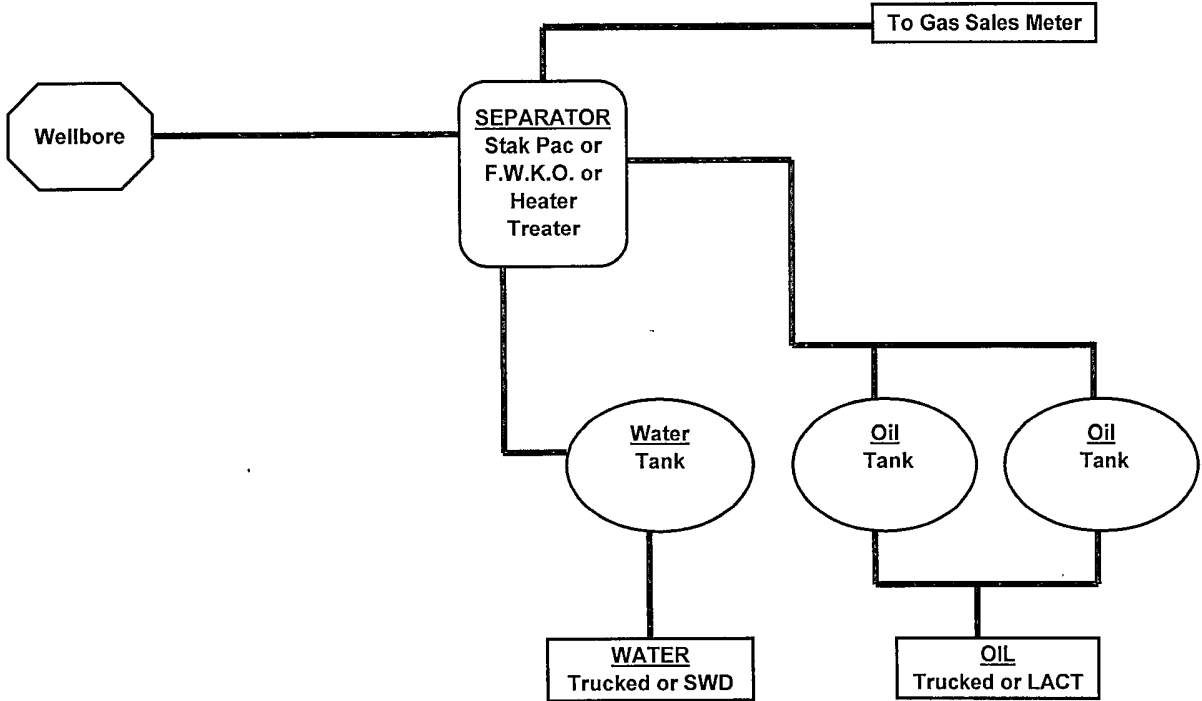
| | |
|------------------|--|
| | Boots & Coots IWC |
| | Cudd Pressure Control..... |
| | Halliburton |
| | B. J. Services..... |
| <i>Give</i> | Flight For Life - Lubbock, TX |
| <i>GPS</i> | Aerocare - Lubbock, TX |
| <i>position:</i> | Med Flight Air Amb - Albuquerque, NM |
| | Lifeguard Air Med Svc. Albuquerque, NM |

Prepared in conjunction with
Wade Rohloff of;



DEVON ENERGY PRODUCTION COMPANY LP

General Production Facilities Diagram



Operators Representative:

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

Ron Hays
Operations Engineer

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) 552-8150 (office)
(405) 464-4214 (cell)

(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 28th day of September, 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: 6478 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 Prod Co |
| LEASE NO.: | NM98189 |
| WELL NAME & NO.: | 3 Nana 30 Fed |
| SURFACE HOLE FOOTAGE: | 2040' FSL & 1980' FWL |
| BOTTOM HOLE FOOTAGE: | ' F L & ' F L |
| LOCATION: | Section 30, T. 18 S., R 32 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
 - Ground-level Abandoned Well Marker
- ☒ **Construction**
 - Notification
 - Topsoil
 - Reserve Pit – Closed-loop mud system
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - H2S – Onshore Order 6 requirements
 - Logging requirements
- ☐ **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.

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 (H₂S) Drilling Plan should be activated 500 feet prior to drilling into the **Queen** 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 is 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 water and brine flows in the Salado and Artesia formations.
Possible high pressures in the Wolfcamp.**

1. The 11-3/4 inch surface casing shall be set at **approximately 1050 feet in the Rustler Anhydrite** and cemented to the surface.
 - 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 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.

Formation below the 11-3/4" 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 and the mud weight for the bottom of the hole. Report results to BLM office.

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

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Formation below the 8-5/8" 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 5-1/2 inch production casing is:
 - a. First stage to DV tool, cement shall:
 - ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool, cement shall:
 - ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.
4. 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 **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.**
3. 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.

Proposed mud weight may not be adequate for drilling through Wolfcamp.

E. DRILL STEM TEST

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

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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.

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.

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.