

ATS-10-11

## Split Estate

OCD-HOBBS  
RECEIVEDForm 3160-3  
(April 2004)

DEC 09 2009

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

HOBBSOCD

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

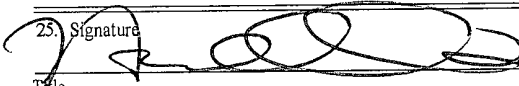
## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work. <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-89891
1b. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
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 City 73102-8260		8. Lease Name and Well No. <b>Cockburn Federal 5</b> <b>&lt;302213&gt;</b>
3b. Phone No. (include area code) 405-552-8198		9. API Well No. <b>38-025-39600</b>
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface 2080' FNL & 2135' FWL Unit F At proposed prod zone 2080' FNL & 2135' FWL Unit F		10. Field and Pool, or Exploratory Mescalero Escarpe, Bone Springs <b>&lt;45793&gt;</b>
14. Distance in miles and direction from nearest town or post office* Approximately 9 miles southeast of Maljamar, NM		11. Sec, T, R, M. or Blk and Survey or Area Sec 10, T18S R33E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 505'	16. No. of acres in lease 200 acres	17. Spacing Unit dedicated to this well 40 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 165'	19. Proposed Depth 10,200'	20. BLM/BIA Bond No. on file CO-1104
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3990' 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:

- |   |  |
|---|--|
| 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 	Name (Printed/Typed) Norvella Adams	Date 09/28/2009
Title Sr. Staff Eng. Tech		

Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed)	Date DEC - 4 2009
Title FIELD MANAGER	Office 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)

Capitan Controlled Water Basin

Approval Subject to General Requirements  
& Special Stipulations AttachedSEE ATTACHED FOR  
CONDITIONS OF APPROVAL

PRIVATE SURFACE OWNER AGREEMENT

OPERATOR: DEVON ENERGY PRODUCTION COMPANY, L.P.

WELL NAME: COCKBURN FEDERAL 5

SECTION: 10 TOWNSHIP: 18S RANGE: 33E

LOCATION: 2080' FNL 2135' FWL

COUNTY: LEA STATE: NEW MEXICO

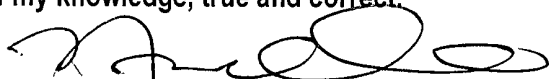
LEASE NUMBER: NM-89891

STATEMENT OF SURFACE USE

The surface to the subject land is owned by Ross & Jill Caviness, 3718 New Mexico 114, Causey, NM 88113.

The surface owner has been contacted regarding the drilling of the subject well, and an agreement for surface use has been negotiated.

CERTIFICATION: I hereby certify that the statements made in this statement are to the best of my knowledge, true and correct.



Signature

NAME: Norvella Adams

DATE: September 28, 2009

TITLE: Sr. Staff Engineering Technician

To expedite your Application to Drill please fax the completed form to the  
Bureau of Land Management (505) 234-5927 or (505) 885-9264  
Attention: Legal Instruments Examiner  
620 E. Green Street  
Carlsbad, NM 88220

The original document with signature should be mailed as soon as possible. Thank you for your cooperation.

RECEIVED

DEC 09 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

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised October 12, 2005

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 <b>30-025-39600</b>	Pool Code <b>45793</b>	Pool Name Mescalero Escarpe, Bone Springs
Property Code <b>302213</b>	Property Name COCKBURN FEDERAL	Well Number 5
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Elevation 3990'

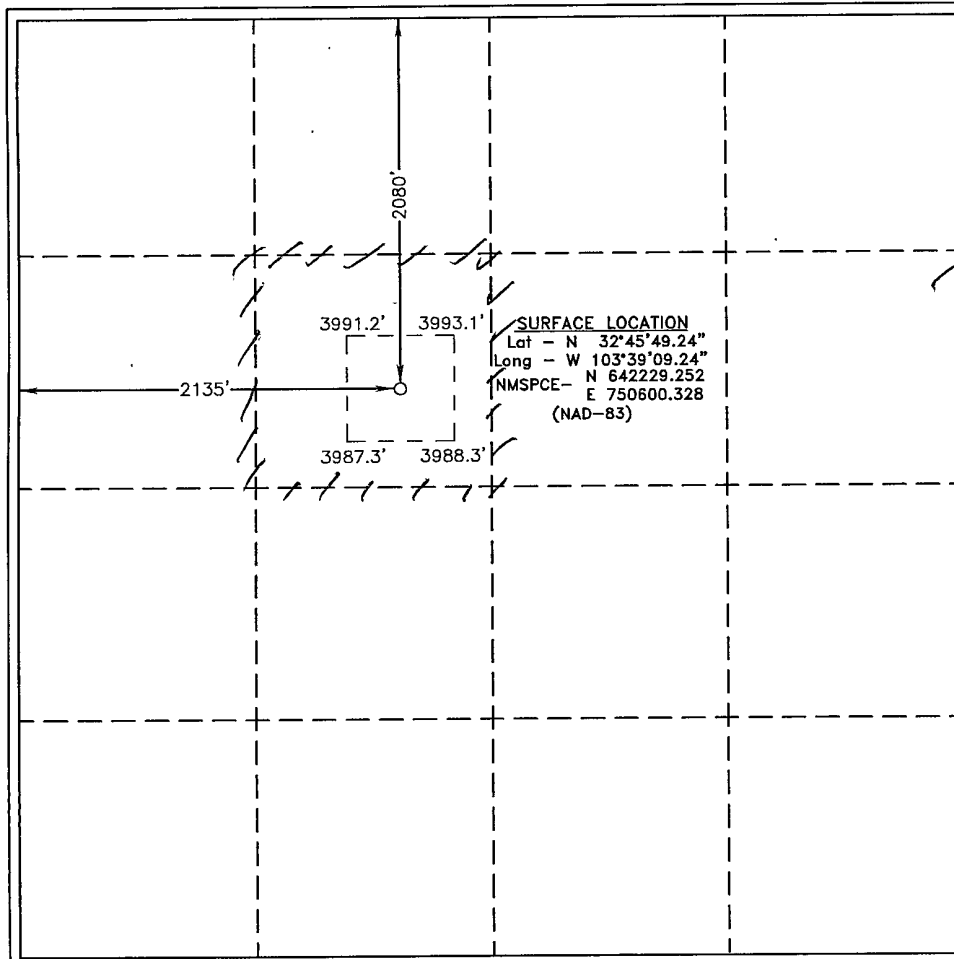
## Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	10	18 S	33 E		2080	NORTH	2135	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

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.

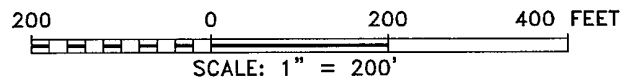
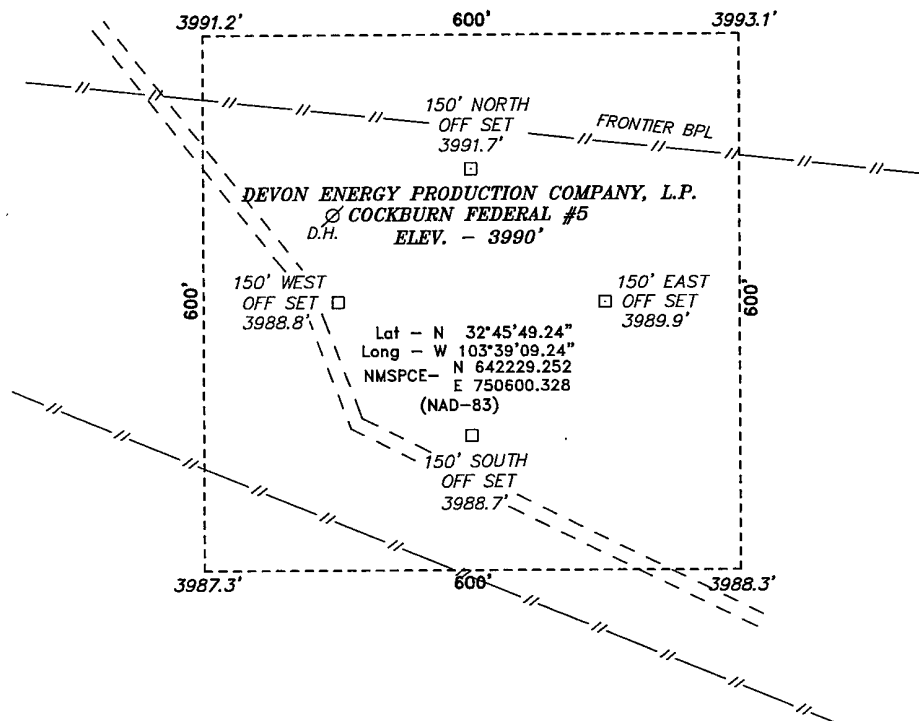
Date Surveyed

Signature &amp; Seal of Professional Surveyor

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

SECTION 10, TOWNSHIP 18 SOUTH, RANGE 33 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.



Directions to Location:

FROM THE MILE MARKER 14 OF HWY 529; GO  
NORTHWEST 0.3 MILES TO LEASE ROAD, ON LEASE  
ROAD GO SOUTHWESTERLY FOR 0.6 MILES TO LEASE  
ROAD, ON LEASE ROAD GO SOUTHEAST FOR 0.4  
MILES TO PROPOSED LOCATION.

**DEVON ENERGY PRODUCTION COMPANY, L.P.**

REF: COCKBURN FEDERAL #5 / WELL PAD TOPO

THE COCKBURN FEDERAL #5 LOCATED 2080'

FROM THE NORTH LINE AND 2135' FROM THE WEST LINE OF

SECTION 10, TOWNSHIP 18 SOUTH, RANGE 33 EAST,

N.M.P.M., LEA COUNTY, NEW MEXICO.

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

W.O. Number: 21679

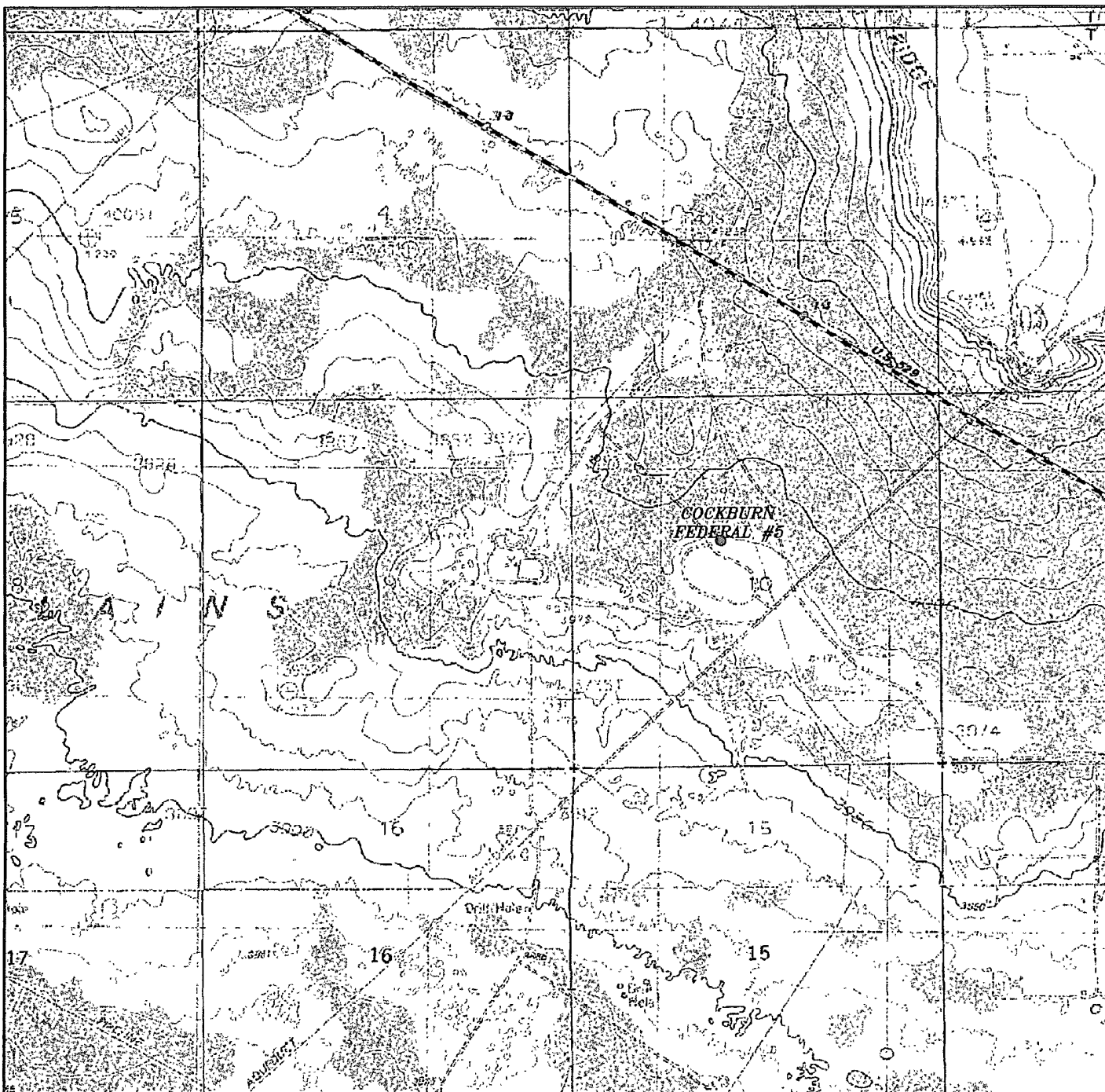
Drawn By: J. SMALL

Date: 09-04-2009

Disk: JMS 21679

Survey Date: 09-03-2009

Sheet 1 of 1 Sheets



### COCKBURN FEDERAL #5

Located 2080' FNL and 2135' FWL

Section 10, Township 18 South, Range 33 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

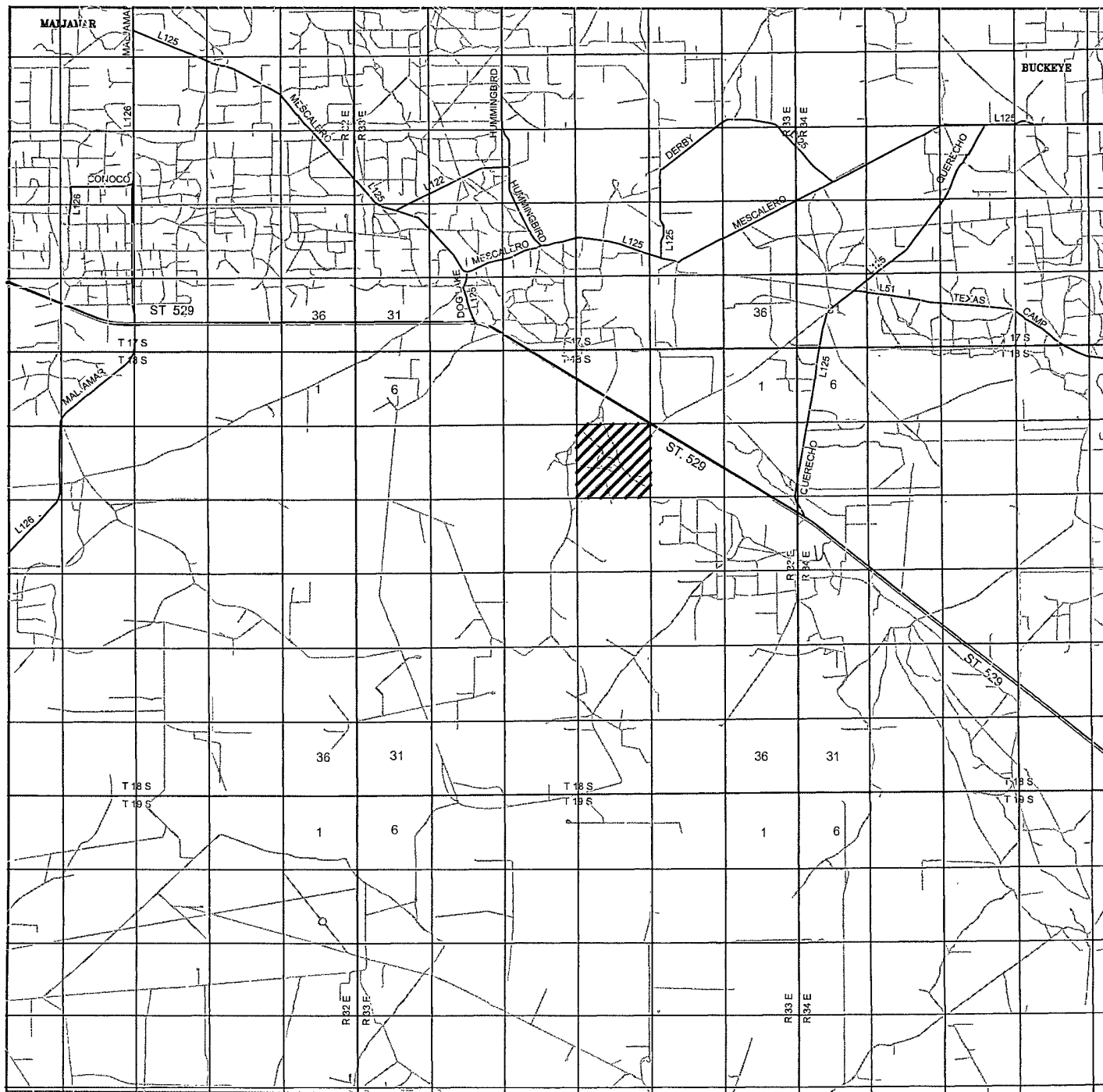
W.O. Number: JMS 21679

Survey Date: 09-03-2009

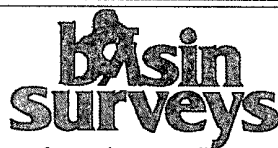
Scale: 1" = 2000'

Date: 09-04-2009

**DEVON ENERGY  
PRODUCTION  
COMPANY, L.P.**



**COCKBURN FEDERAL #5**  
 Located 2080' FNL and 2135' FWL  
 Section 10, Township 18 South, Range 33 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](http://basinsurveys.com)

W.O. Number: JMS 21679

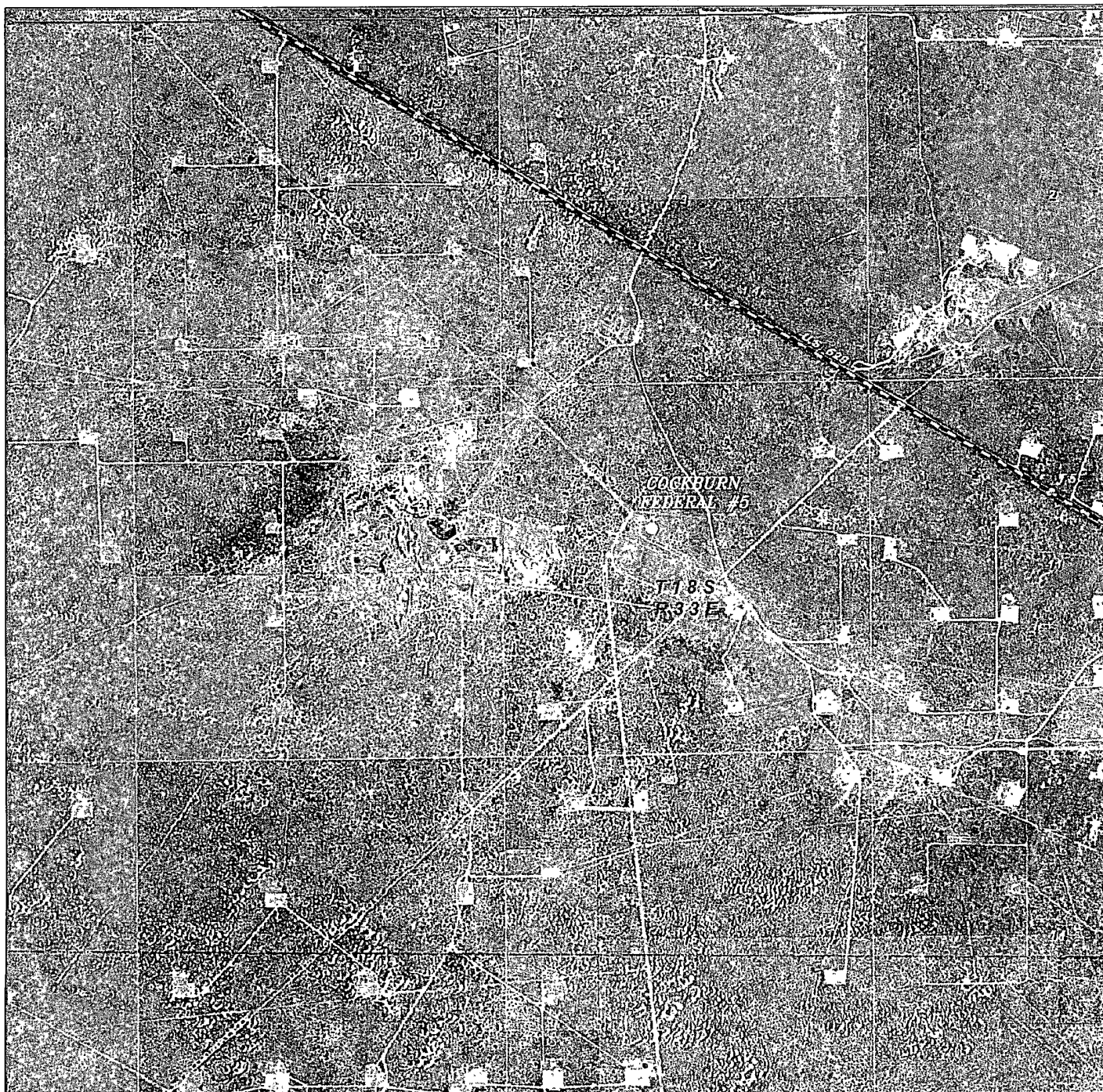
Survey Date: 09-03-2009

Scale: 1" = 2 Miles

Date: 09-04-2009



**DEVON ENERGY  
 PRODUCTION  
 COMPANY, L.P.**



COCKBURN FEDERAL #5  
 Located 2080' FNL and 2135' FWL  
 Section 10, Township 18 South, Range 33 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

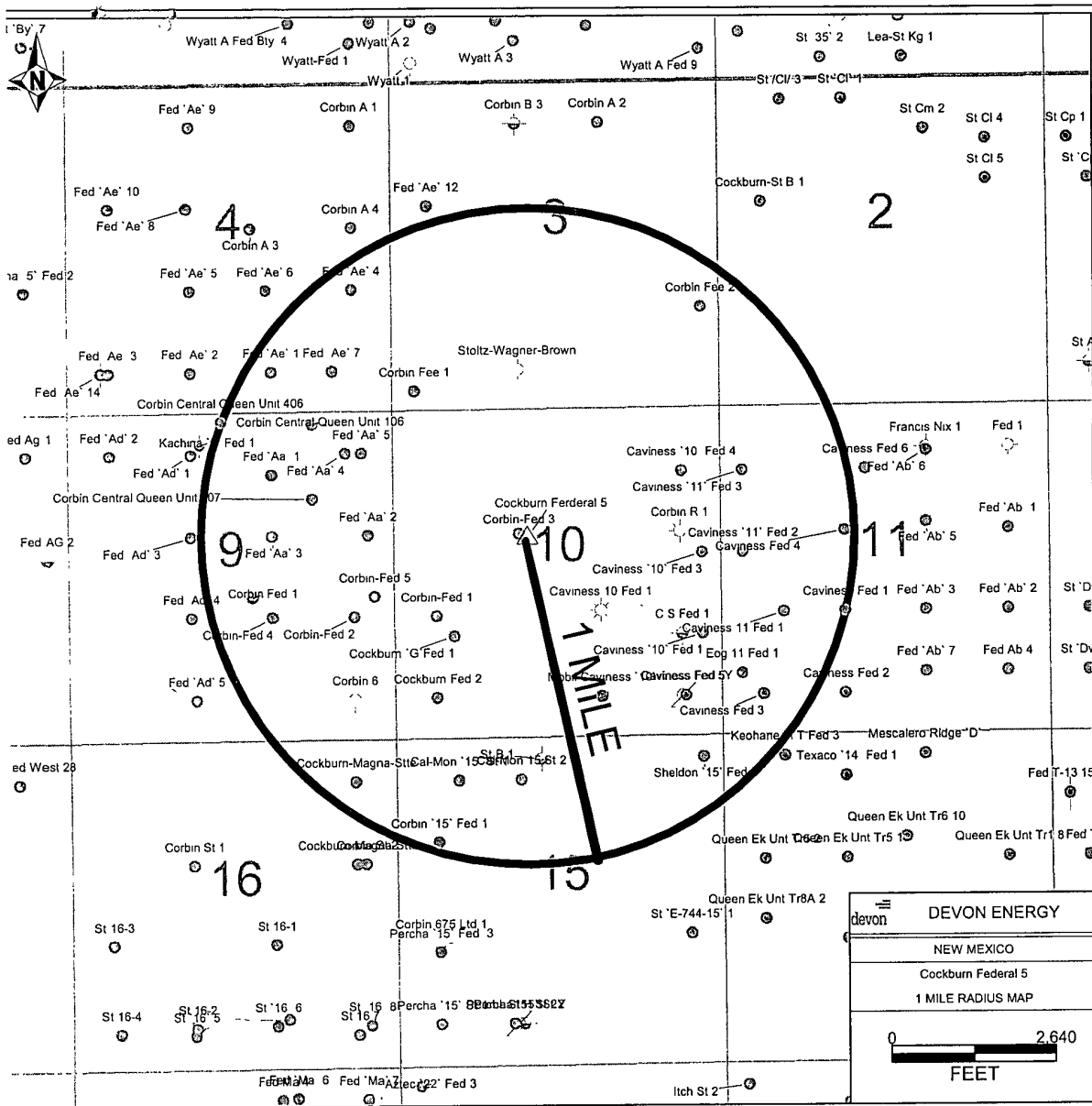
W.O. Number: JMS 21679

Scale: 1" = 2000'

YELLOW TINT - USA LAND  
 BLUE TINT - STATE LAND  
 NATURAL COLOR - FEE LAND

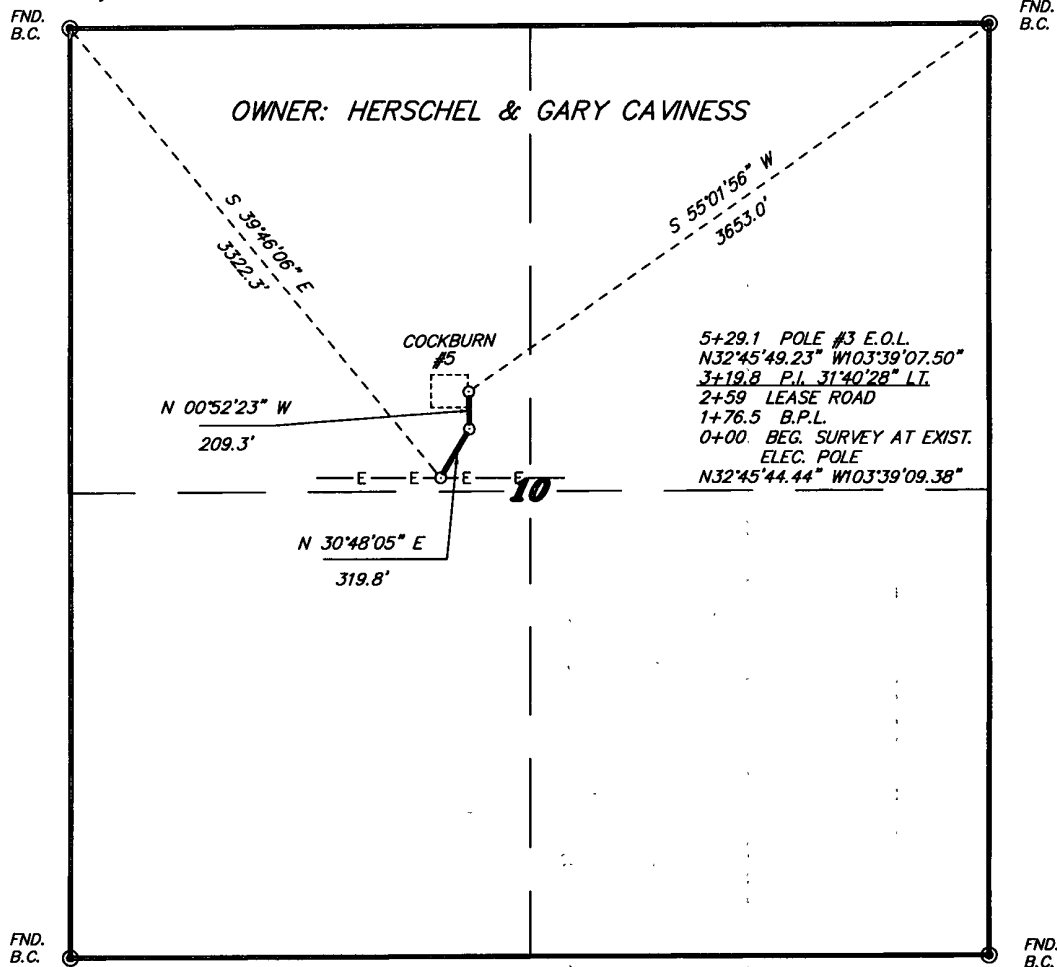
DEVON ENERGY  
 PRODUCTION  
 COMPANY, L.P.







SECTION 10, TOWNSHIP 18 SOUTH, RANGE 33 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.

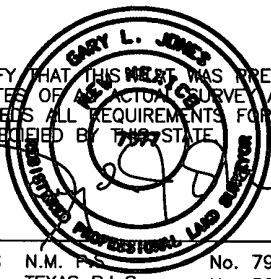


LEGAL DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE, LOCATED IN SECTION 10, TOWNSHIP 18 SOUTH, RANGE 33 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY.

BEGINNING AT A POINT WHICH LIES S.39°46'06"E., 3322.3 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 10; THENCE N.30°48'05"E., 319.8 FEET; THENCE N.00°52'23"W., 209.3 FEET TO THE END OF THIS LINE WHICH LIES S.55°01'56"W., 3653.0 FEET FROM THE NORTHEAST CORNER OF SAID SECTION 10. SAID STRIP OF LAND BEING 529.1 FEET OR 32.07 RODS IN LENGTH.

I HEREBY CERTIFY THAT THIS MAP WAS PREPARED FROM FIELD NOTES OF A FACTORY SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.



GARY L. JONES N.M.P.S. No. 7977  
TEXAS P.L.S. No. 5074

1000 0 1000 2000 FEET

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

REF: PROPOSED ELECTRIC LINE TO THE COCKBURN #5 LOC.

AN ELECTRIC LINE CROSSING FEE LAND IN  
SECTION 10, TOWNSHIP 18 SOUTH, RANGE 33 EAST,  
N.M.P.M., LEA COUNTY, NEW MEXICO.

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

W.O. Number: 21877

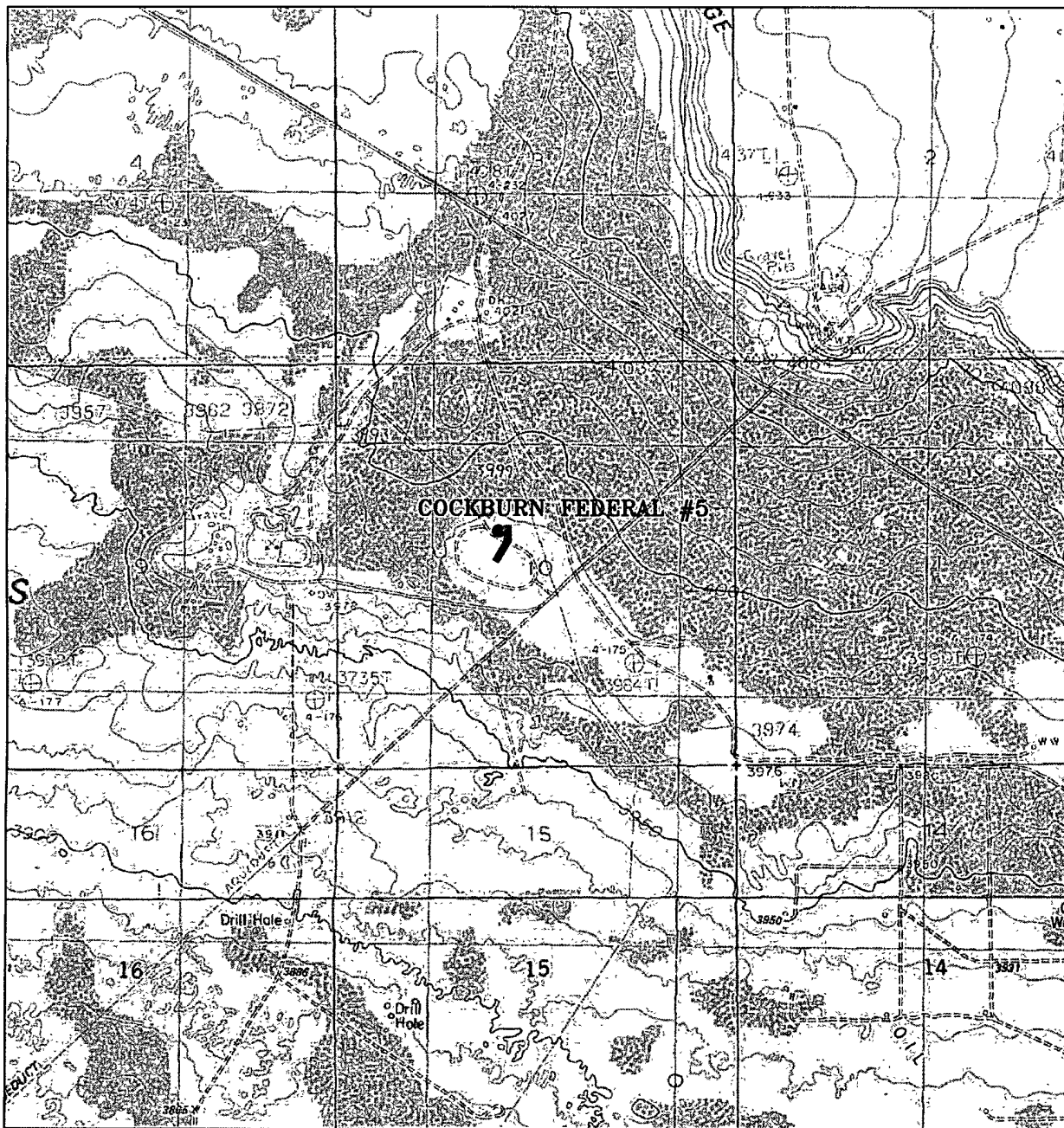
Drawn By: James Presley

Date: 10/22/09

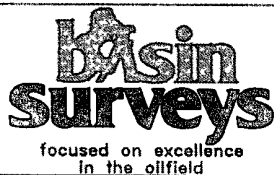
Disk: JLP #1 - DEV21877

Survey Date: 10/21/09

Sheet 1 of 1 Sheets



**PROPOSED ELECTRIC LINE TO THE COCKBURN FEDERAL #5**  
 Section 10, Township 18 South, Range 33 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](http://basinsurveys.com)

W.O. Number: 21877 - JLP #1

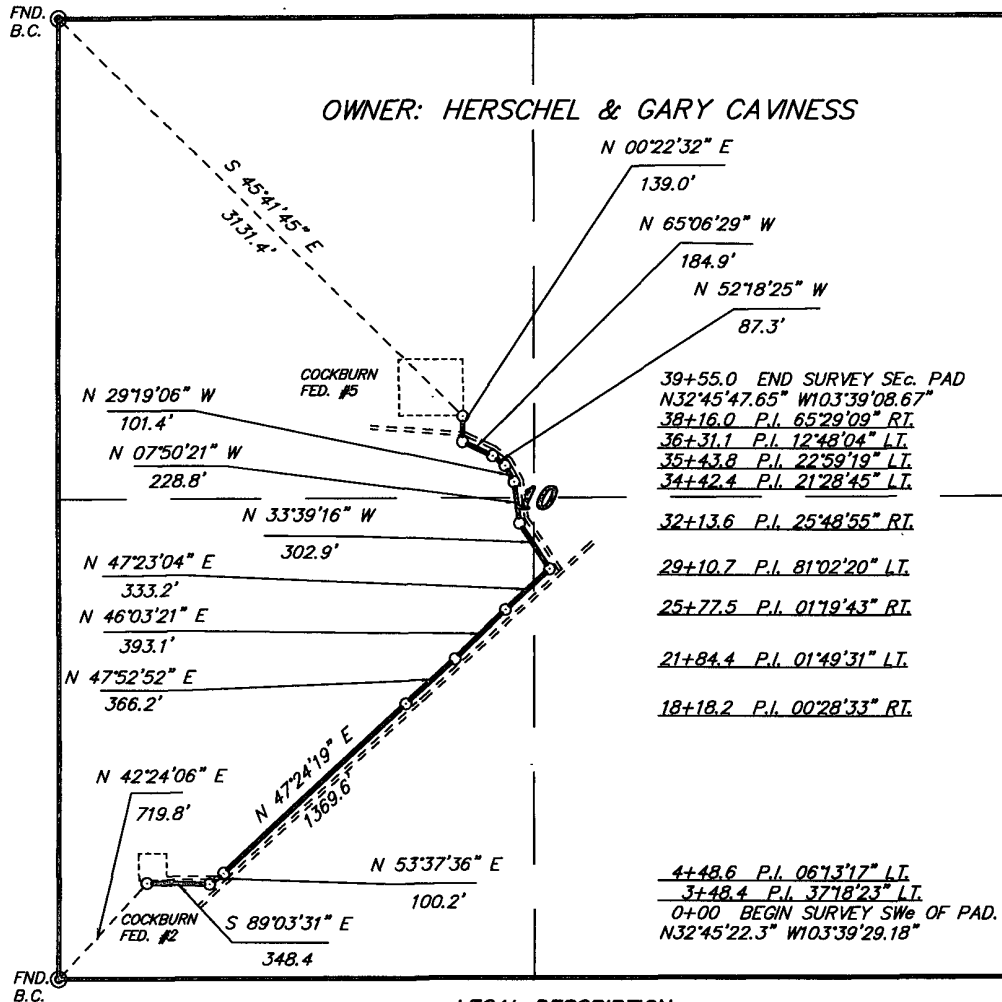
Survey Date: 10/21/09

Scale: 1" = 2000'

Date: 10/22/09

**DEVON  
 ENERGY  
 PRODUCTION LP**

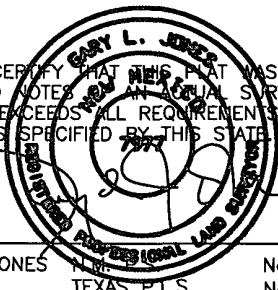
SECTION 10, TOWNSHIP 18 SOUTH, RANGE 33 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.



A STRIP OF LAND 30.0 FEET WIDE, LOCATED IN SECTION 10, TOWNSHIP 18 SOUTH, RANGE 33 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY.

BEGINNING AT A POINT WHICH LIES N.42°24'06"E., 719.8 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 10; THENCE S.89°03'31"E., 348.4 FEET; THENCE N.53°37'36"E., 100.2 FEET; THENCE N.47°24'19"E., 1369.6 FEET; THENCE N.47°52'52"E., 366.2 FEET; THENCE N.46°03'21"E., 393.1 FEET; THENCE N.47°23'04"E., 333.2 FEET; THENCE N.33°39'16"W., 302.9 FEET; THENCE N.07°50'21"W., 228.8 FEET; THENCE N.29°19'06"W., 101.4 FEET; THENCE N.52°18'25"W., 87.3 FEET; THENCE N.65°06'29"W., 184.9 FEET; THENCE N.00°22'32"E., 139.0 FEET TO THE END OF THIS LINE WHICH LIES S.45°41'45"E., 3131.4 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 10. SAID STRIP OF LAND BEING 3955.0 FEET OR 239.70 RODS IN LENGTH.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.



GARY L. JONES No. 7977  
TEXAS P.L.S. No. 5074

1000 0 1000 2000 FEET

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

REF: PROPOSED PIPELINE TO THE COCKBURN FEDERAL #5

A PIPELINE CROSSING FEE LAND IN  
SECTION 10, TOWNSHIP 18 SOUTH, RANGE 33 EAST,  
N.M.P.M., LEA COUNTY, NEW MEXICO.

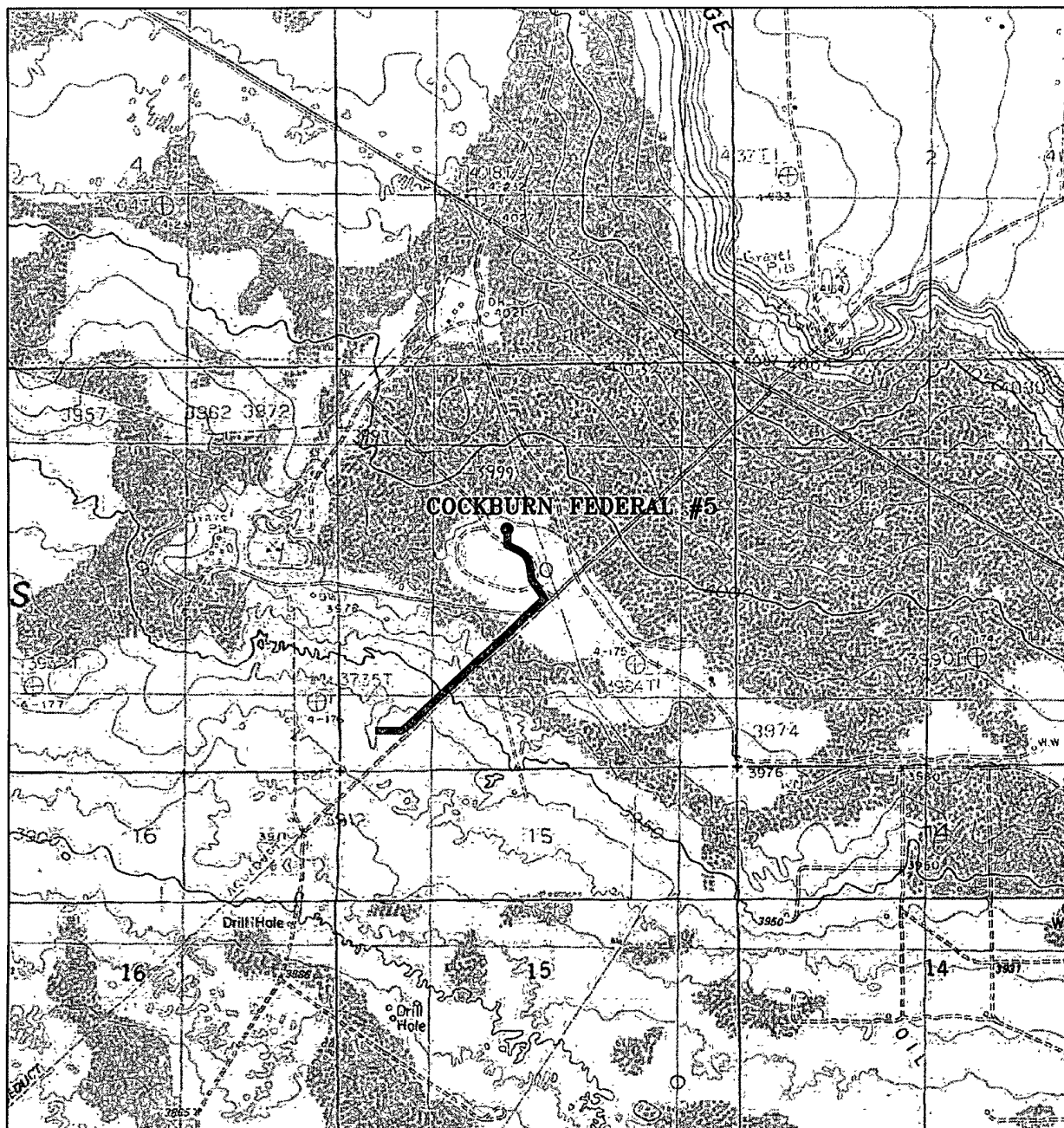
**BASIN SURVEYS** P.O. BOX 1786—HOBBS, NEW MEXICO

W.O. Number: 21874 Drawn By: James Presley

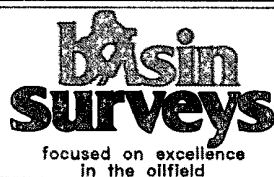
Date: 10/22/09 Disk: JLP #1 — DEV21874

Survey Date: 10/21/09

Sheet 1 of 1 Sheets



**PROPOSED PIPELINE TO THE COCKBURN FEDERAL #5**  
 Section 10, Township 18 South, Range 33 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](http://basinsurveys.com)

W.O. Number: 21874 - JLP #1

Survey Date: 10/21/09

Scale: 1" = 2000'

Date: 10/22/09

**DEVON**  
**ENERGY**  
**PRODUCTION LP**

## DRILLING PROGRAM

Devon Energy Production Company, LP

### **Cockburn Federal 5**

Surface Location: 2080' FNL & 2135' FWL, Unit F, Sec 10 T18S R33E, Lea, NM

Bottom Hole Location: 2080' FNL & 2135' FWL, Unit F, Sec 10 T18S R33E, Lea, NM

#### **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	1538'	Fresh Water
c. Salado Salt	1797'	
d. Tansil Dol.	2883'	Oil
e. Yates Ss	2971'	Oil
f. Seven Rivers	3467'	Oil
g. Queen Ss	4207'	Oil
h. Grayburg	4268'	Oil
i. Cherry Canyon	4961'	Oil
j. Brushy Canyon	5776'	Oil
k. 1 <sup>st</sup> Bone Spring Lm	6577'	Oil
l. 1 <sup>st</sup> Bone Spring Ss	8214'	Oil
m. 2 <sup>nd</sup> Bone Spring Lm	8411'	Oil
n. 2 <sup>nd</sup> Bone Spring Ss	8846'	Oil
o. 3 <sup>rd</sup> Bone Spring Lm	9613'	Oil
p. 3 <sup>rd</sup> Bone Spring Ss	9864'	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"~~ <sup>11 3/4"</sup> casing at ~~3200'~~ <sup>1580'</sup> 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'~~ <sup>2575'</sup>.

#### **3. Casing Program:**

See COA

<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' - <del>450'</del> <sup>1580'</sup>	11 3/4"	0' - <del>450'</del> <sup>1580'</sup>	42#	ST&C	H-40
11"	<del>450'</del> <sup>1580'</sup> - <del>3200'</del> <sup>2975'</sup>	8 5/8"	<del>450'</del> <sup>1580'</sup> - <del>3200'</del> <sup>2975'</sup>	32#	LT&C	J-55
7 7/8"	<del>3200'</del> <sup>2975'</sup> - 10,200'	5 1/2"	<del>3200'</del> <sup>2975'</sup> - 10,200'	17#	LT&C	N-80

**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"	5.35	9.9	15.35
8 5/8"	1.63	2.54	4.07
5 1/2"	1.30	1.61	2.00

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

- a. 11 3/4" Surface Lead with 110 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, 1.97 cf/sx, 10.56 gps. Tail with 150 sx Class C + 2% CaCl<sub>2</sub> + 1/4 lbs/sx Celloflake; 14.8 ppg, 1.35 cf/sx, 6.35 gps. TOC = 0.
- b. 8 5/8" Intermediate Lead with 725 sx (35:65) Poz Class C + 2% CaCl<sub>2</sub> + 1/4 lbs/sx Cello Flake + 6% Bentonite + 5% NaCl; 12.5 ppg, 2.04 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: 475 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, 1.56 cf/sx, 7.55 gps.. Stage 2: Lead with 695 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 = ~~2,800~~ 2,575. 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** *See COA*

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0' - 450' <sup>1580</sup>	8.4 - 9.0	32-34	NC	Fresh Water
450' - 3200' <sup>2975</sup>	8.8 - 9.2	28-30	NC	<del>Fresh Water</del> / Brine
3200' - 10,200'	8.6 - 9.0	28	NC	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:** *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.

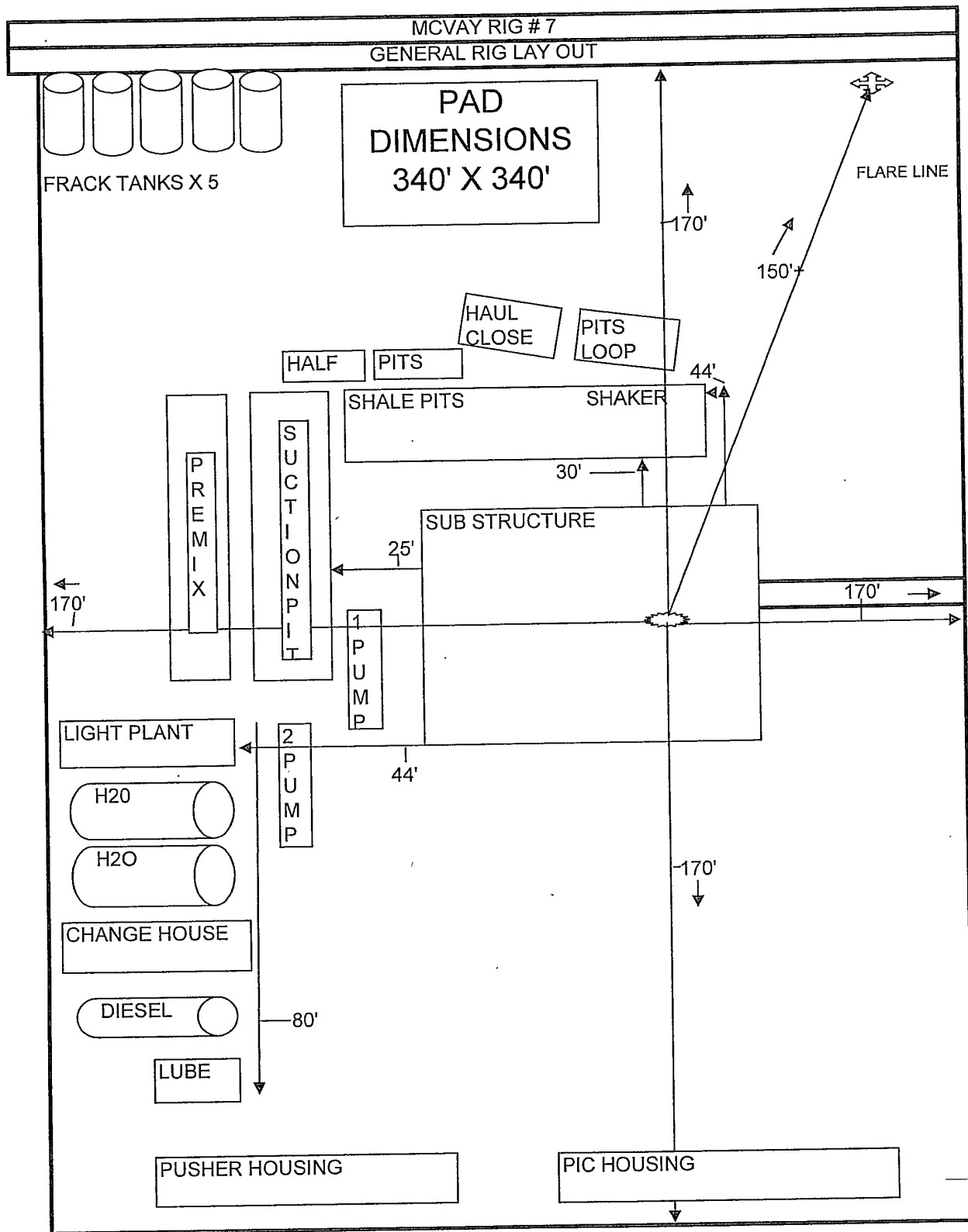
9. **Potential Hazards:**

- 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 4600 psi and Estimated BHT 130°.

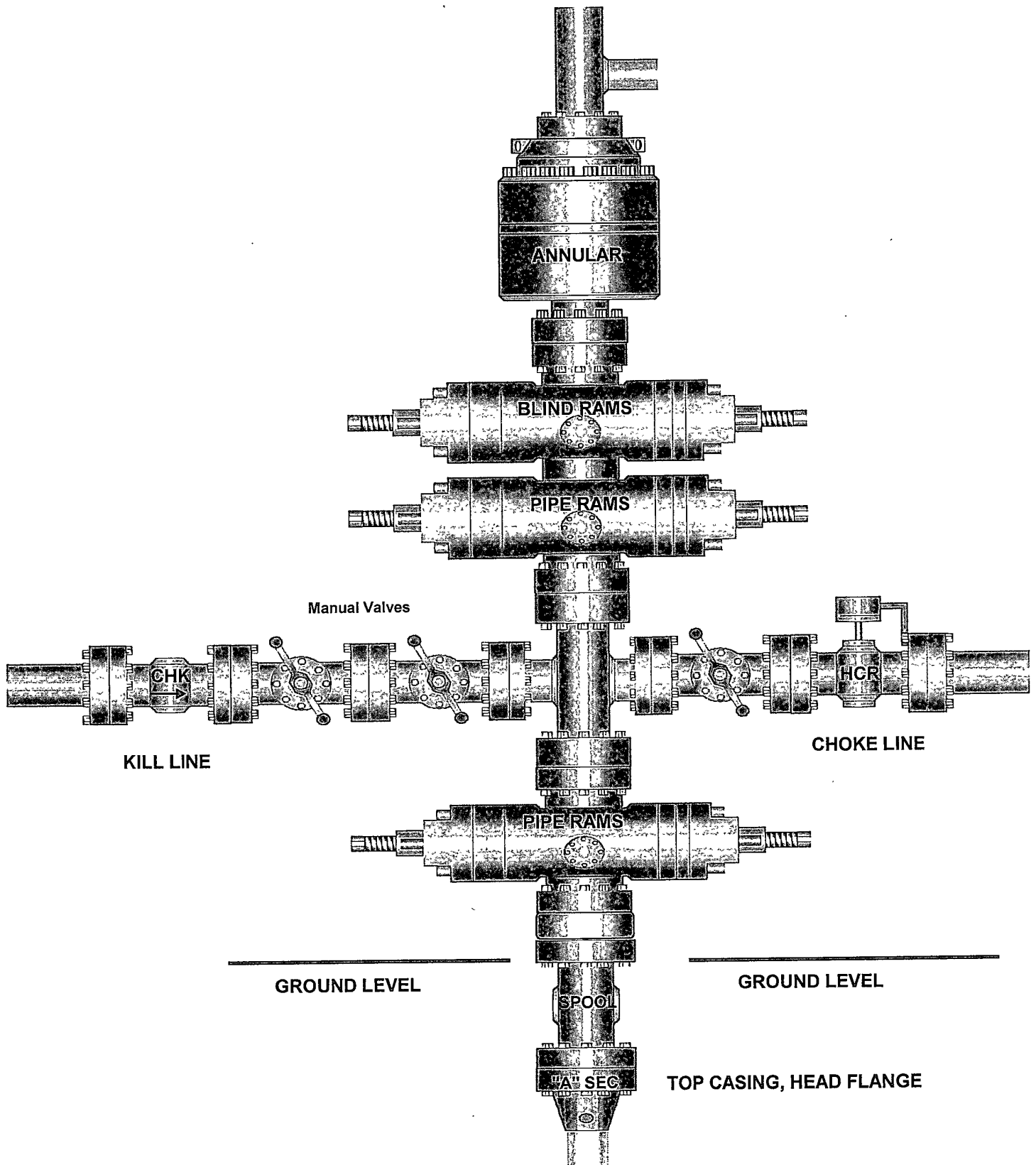
10. **Anticipated Starting Date and Duration of Operations:**

- 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.

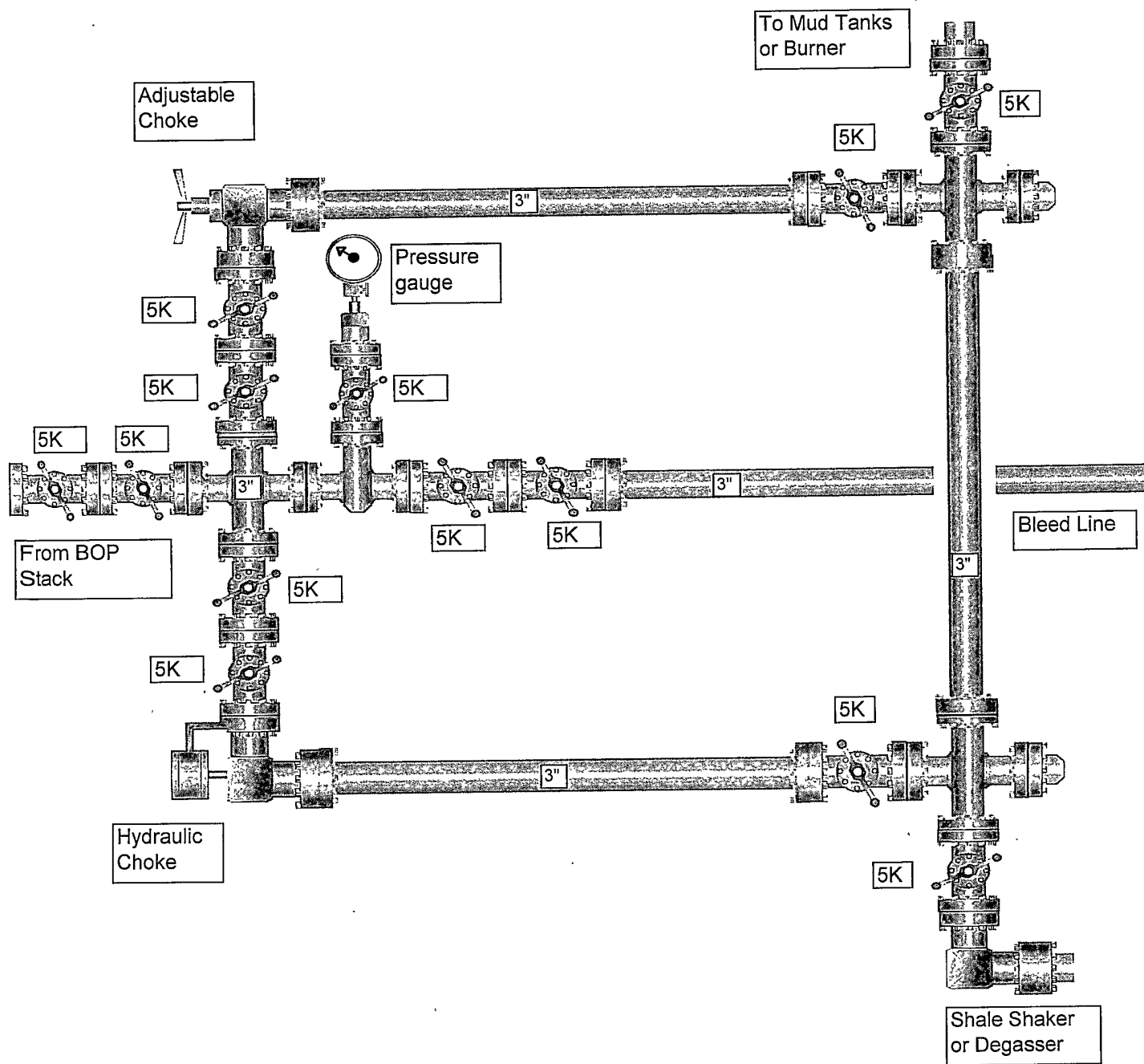




# 13-5/8" x 5,000 psi BOP Stack

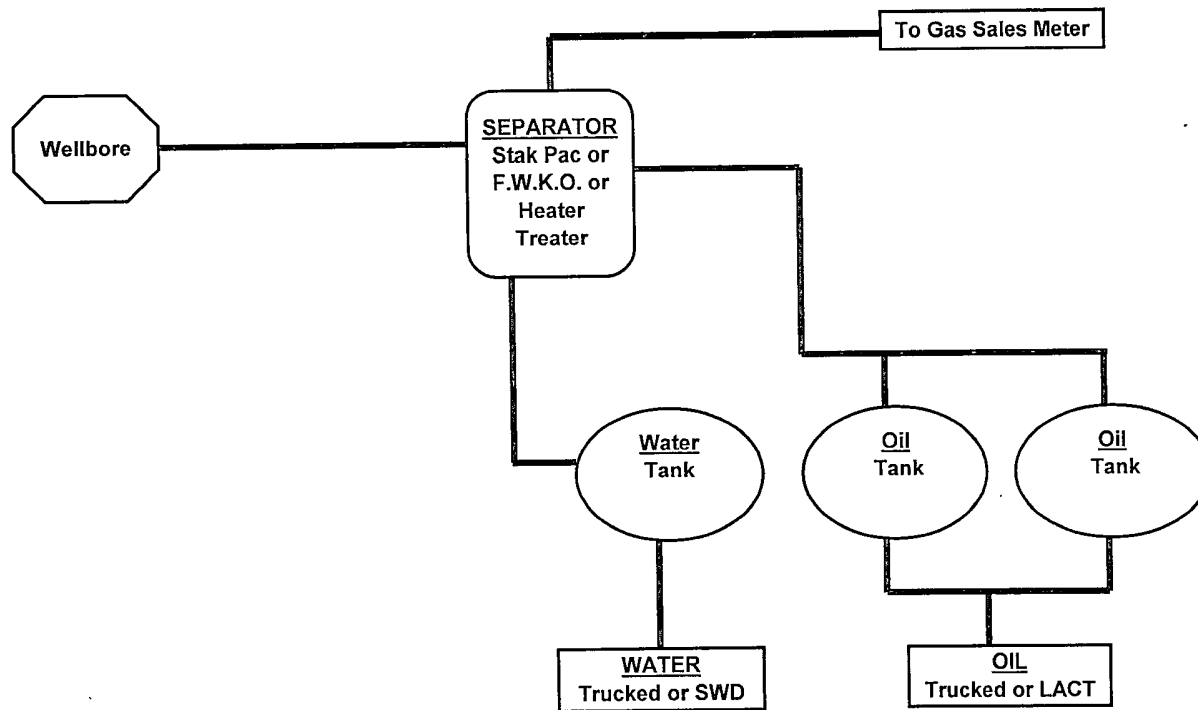


# 5,000 PSI CHOKE MANIFOLD



DEVON ENERGY PRODUCTION COMPANY LP

General Production Facilities Diagram





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

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

**For**

**Cockburn Federal # 5**

**2080'FNL & 2135' FWL,  
Sec-10, T-18S R-33E**

**Lea County NM**

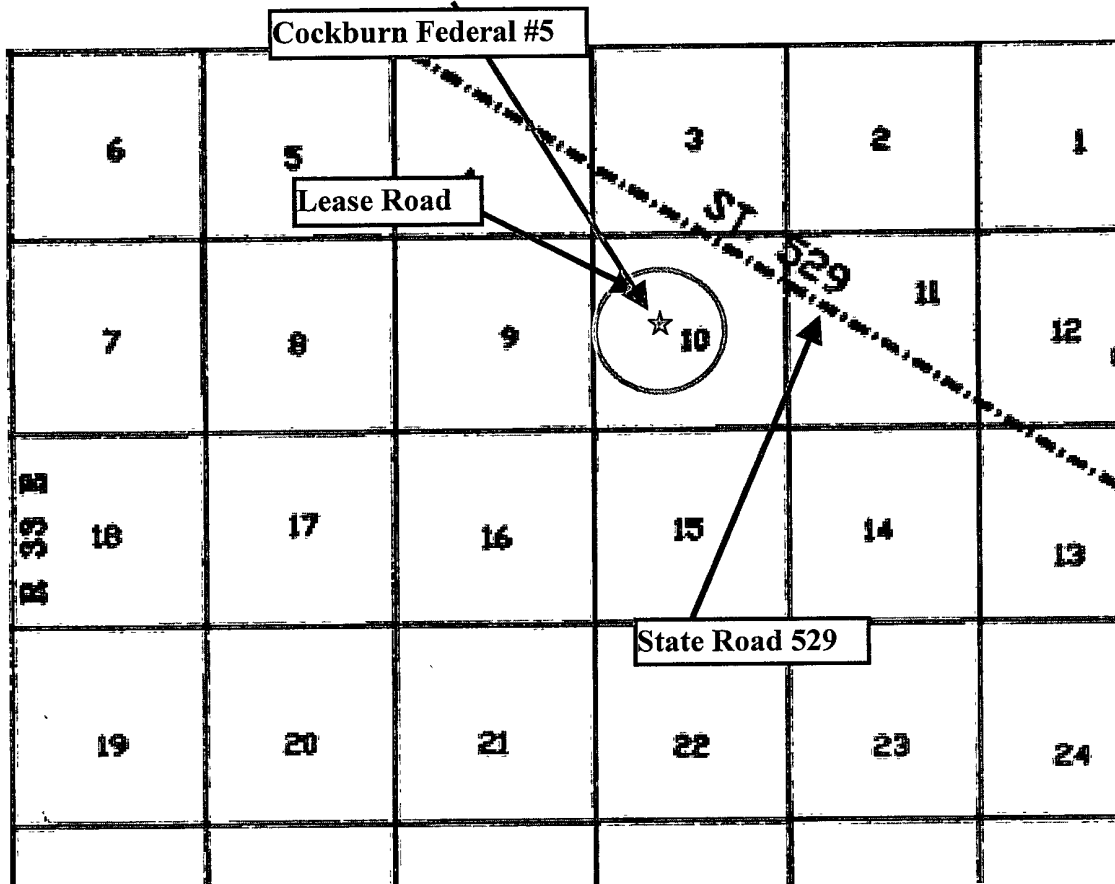
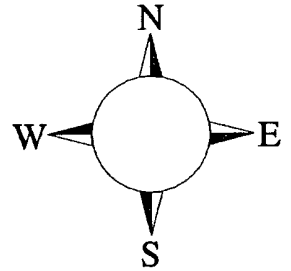
Bureau of Land Management  
RECEIVED

OCT 16 2009

Carlsbad Field Office  
Carlsbad, N.M.

## Cockburn Federal # 5

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 North on lease road to State Road 529. 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 H<sub>2</sub>S concentration shall trigger activation of this plan.**

### **Emergency Procedures**

**In the event 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.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **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 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 H<sub>2</sub>S, 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 (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOC 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>**

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

### **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**

<b><u>Artesia (575)</u></b>	<b><u>Cellular</u></b>	<b><u>Office</u></b>	<b><u>Home</u></b>
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**

<b><u>Lea</u></b>	<b><u>Hobbs</u></b>
<b><u>County</u></b>	State Police .....
<b><u>(575)</u></b>	City Police .....
	Sheriff's Office.....
	Ambulance.....
	Fire Department.....
	LEPC (Local Emergency Planning Committee) .....
	NMOCD .....
	US Bureau of Land Management .....
<b><u>Eddy</u></b>	<b><u>Carlsbad</u></b>
<b><u>County</u></b>	State Police .....
<b><u>(575)</u></b>	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 .....	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  
**Cockburn Federal 5**

Surface Location: 2080' FNL & 2135' FWL, Unit F, Sec 10 T18S R33E, Lea, NM  
Bottom Hole Location: 2080' FNL & 2135' FWL, Unit F, Sec 10 T18S R33E, 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 mile marker 14 on Hwy 529, go northwest 0.3 miles to lease road, on lease road go southwesterly for 0.6 miles to lease road, on lease road go southeast for 0.4 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 Cockburn Federal 5 well to the Cockburn Federal # 2 tank battery, located at 660' FSL & 660' FWL of Sec 10 T18S R33E. 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 used.
  - 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, 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 privately owned by Ross and Jill Caviness, 3718 New Mexico 114, Causey NM. The surface is multiple uses 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 may 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.

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.:	NM89891
WELL NAME & NO.:	5 Cockburn Federal
SURFACE HOLE FOOTAGE:	2080' FNL & 2135' FWL
BOTTOM HOLE FOOTAGE:	' F L & ' F L
LOCATION:	Section 10, T. 18 S., R 33 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
- ☒ **Construction**
  - Notification
  - Topsoil
  - Reserve Pit – Closed-loop mud system
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
  - Logging requirement
  - Casing/Cement
  - H2S – Onshore Order 6
- ☒ **Production (Post Drilling)**
  - Pipelines
  - Electric Lines
- ☐ **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**

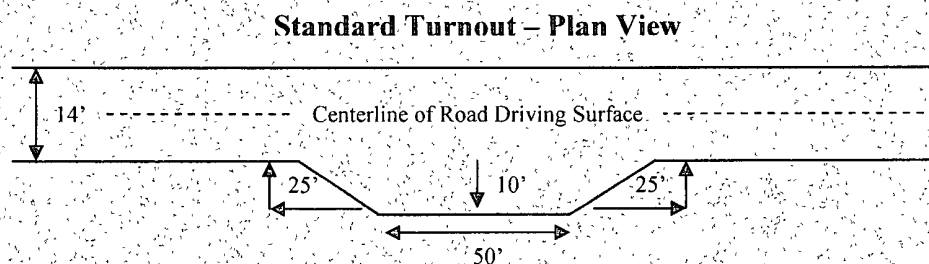
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### **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:

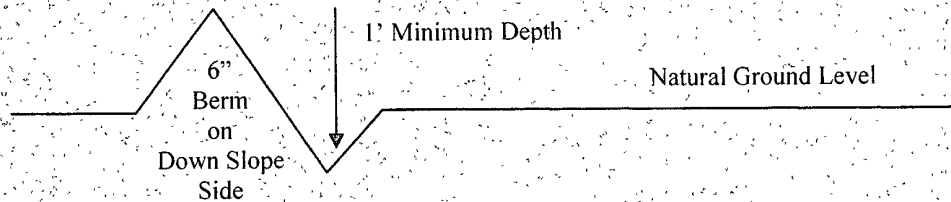


### **Drainage**

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping 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.

#### **Cross Section of a Typical 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:

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

#### **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**

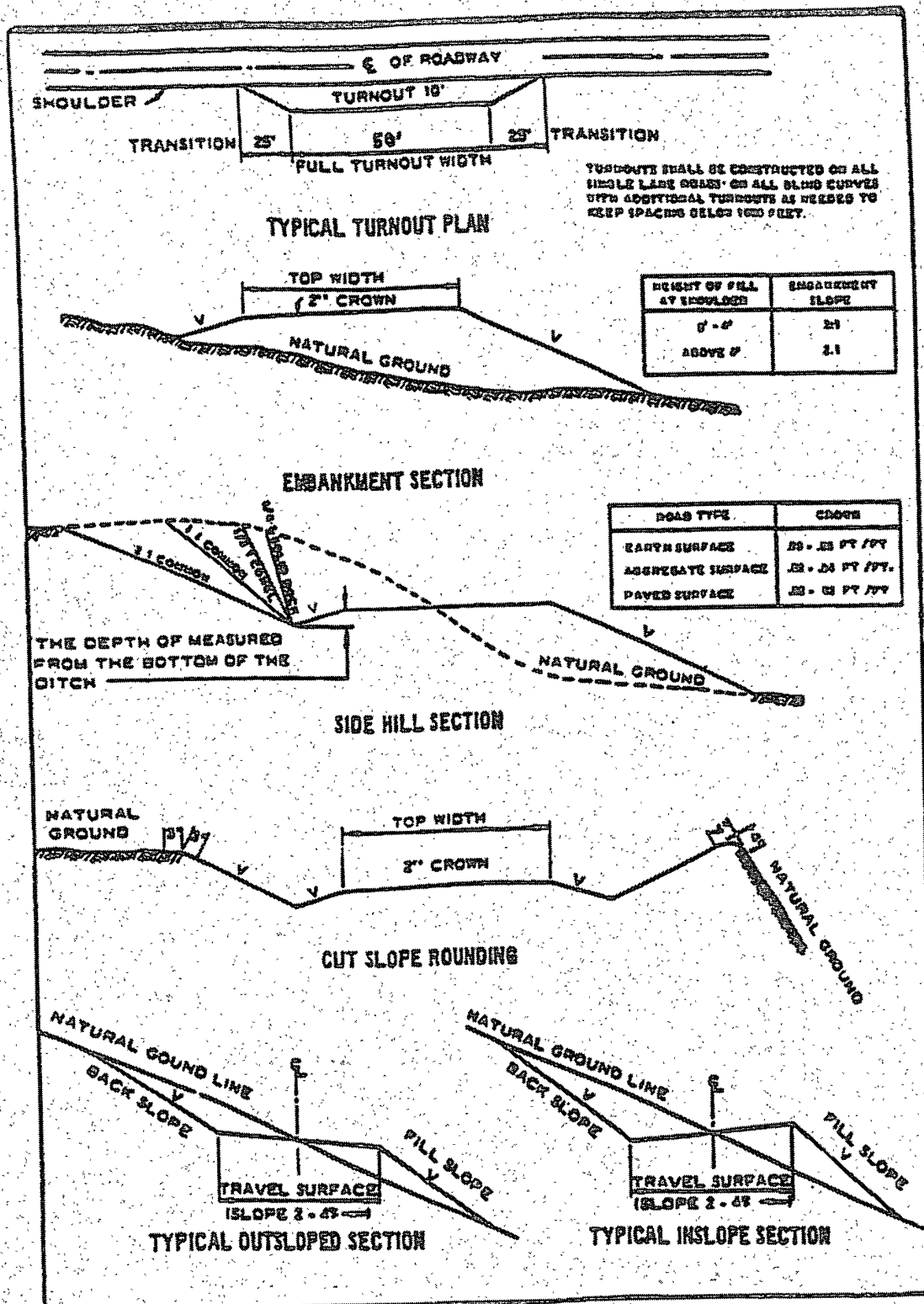
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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 **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 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 water and brine flows in the Salado and Artesia group.  
Possible lost circulation in the Grayburg and Getaway Bank member of the lower Cherry Canyon formation.**

- 1. The 11-3/4 inch surface casing shall be set at approximately 1580 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If the salt is penetrated, set the casing shoe 25' above the top of salt. Fresh water mud is to be used to drill surface hole. Additional cement will be needed because of the deepening of the surface hole. Excess cement is calculated to a -44%.**

**Onshore Order II requires casing to be set across a competent bed and the Rustler Anhydrite is the first formation that meets that criteria.**

- 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.**

**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. **Set casing at approximately 2975' within the Tansill. Intermediate hole to be drilled with saturated brine mud.**

**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 400 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. **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. DRILL STEM TEST**

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

**DHW 110609**

## **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

### **B. PIPELINES**

#### **STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES**

**A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the

Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
- b. Activities of other parties including, but not limited to:
  - (1) Land clearing.
  - (2) Earth-disturbing and earth-moving work.
  - (3) Blasting.
  - (4) Vandalism and sabotage.
- c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of 25 feet.
7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.
8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas, the pipeline will be "snaked" around hummocks and dunes rather than suspended across these features.
9. The pipeline shall be buried with a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.
10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.
11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.
12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.
13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.
14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.
15. Any cultural and/or paleontological resource (historic or prehistoric site or object)

discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder 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 will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

(March 1989)

### **C. ELECTRIC LINES**

#### **STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES**

**A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Powerlines shall be constructed in accordance to standards outlined in "Suggested Practices for Raptor Protection on Powerlines, " Raptor Research Foundation, Inc., 1981. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "raptor safe." Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land



shall be immediately reported to the Authorized Officer. Holder 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 will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.
- See attached reclamation plans.

## **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 2, for Sandy 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>
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Sand love grass ( <i>Eragrostis trichodes</i> )	1.0
Plains bristlegrass ( <i>Setaria macrostachya</i> )	2.0

\*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.