

OCD Hobbs

Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

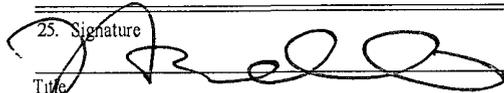
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No NMNM-96256
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator 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. Arena Roja Federal Unit 10
3b. Phone No. (include area code) 405-552-8198		9. API Well No 30-025-39594
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 660 FNL & 1960 FWL, Unit C At proposed prod. zone 660 FNL & 1960 FWL, Unit C		10. Field and Pool, or Exploratory Take Strawn
14. Distance in miles and direction from nearest town or post office* Approximately 9 miles southwest of Jal, NM.		11. Sec, T R M or Blk and Survey or Area Sec 15, T26S R35E Unit C
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	16. No. of acres in lease 640 acres	17. Spacing Unit dedicated to this well 320 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1340'	19. Proposed Depth 15,435'	20. BLM/BIA Bond No. on file CO-1104
21. Elevations (Show whether DF, KDB, RT, GL, etc) 3108' GL	22. Approximate date work will start* 11/01/2009	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.
- 2. A Drilling Plan
- 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).
- 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)
- 5. Operator certification
- 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 07/24/2009
Title Sr. Staff Eng. Tech		

Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date DEC 02 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

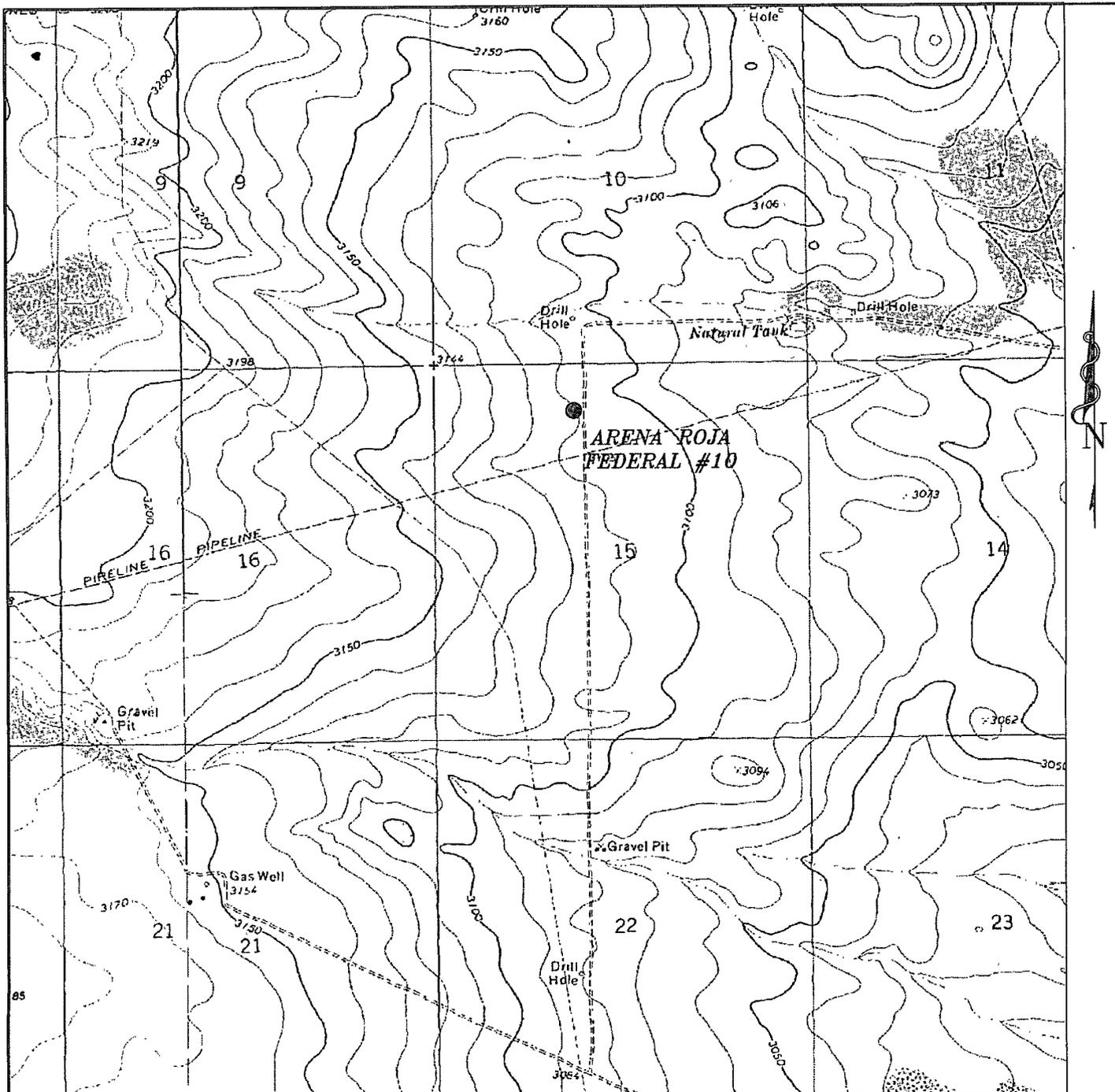
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DEC 07 2009

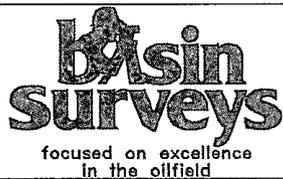
HOBBSOCD

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

**Approval Subject to General Requirements
& Special Stipulations Attached**



ARENA ROJA FEDERAL #10
 Located at 660' FNL AND 1960' FWL
 Section 15, Township 26 South, Range 35 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

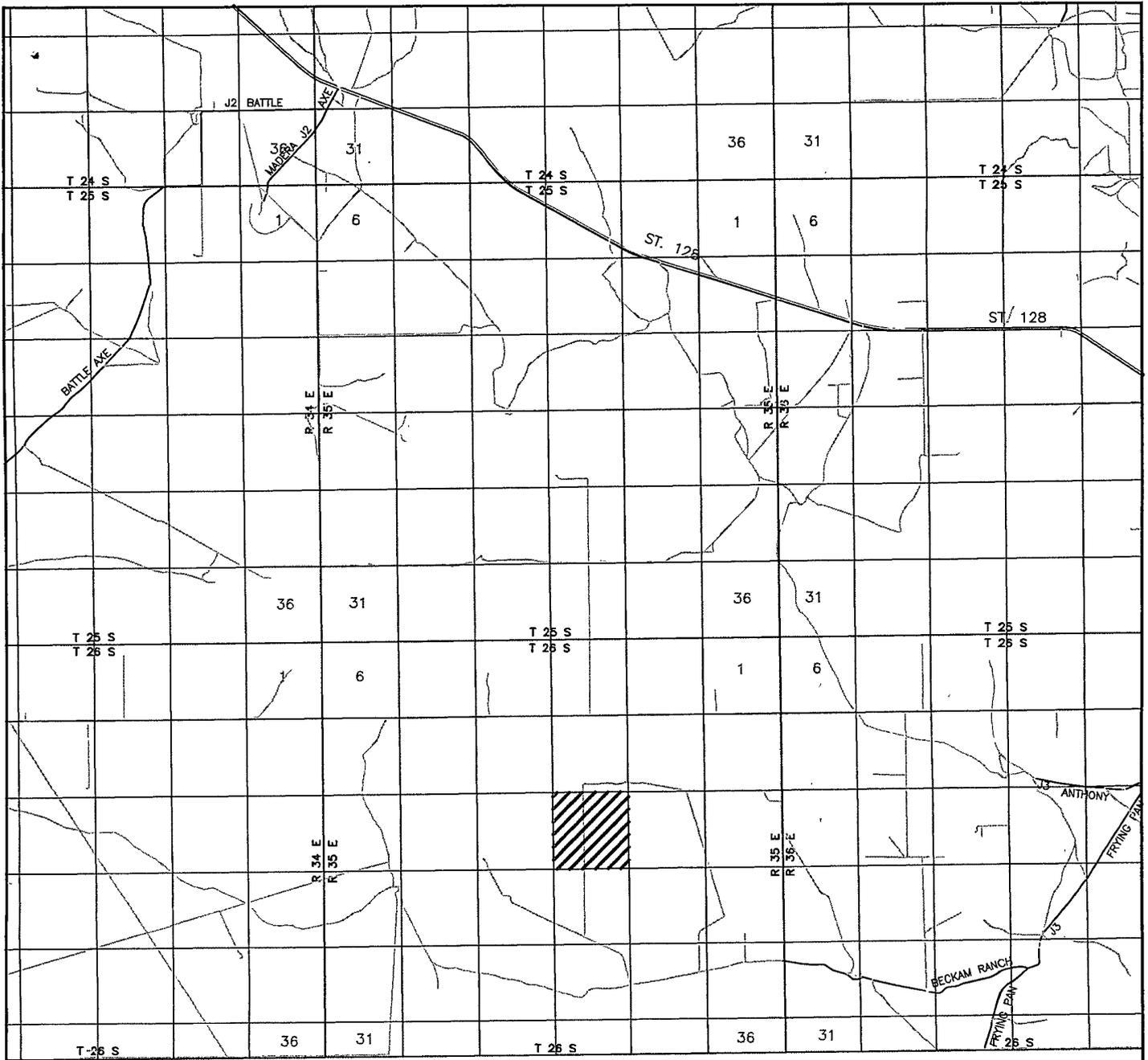
W.O. Number: JMS 20641

Survey Date: 10-20-2008

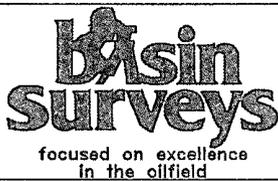
Scale: 1" = 2000'

Date: 10-22-2008

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



ARENA ROJA FEDERAL #10
 Located at 660' FNL AND 1960' FWL
 Section 15, Township 26 South, Range 35 East,
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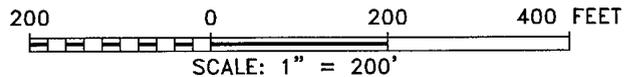
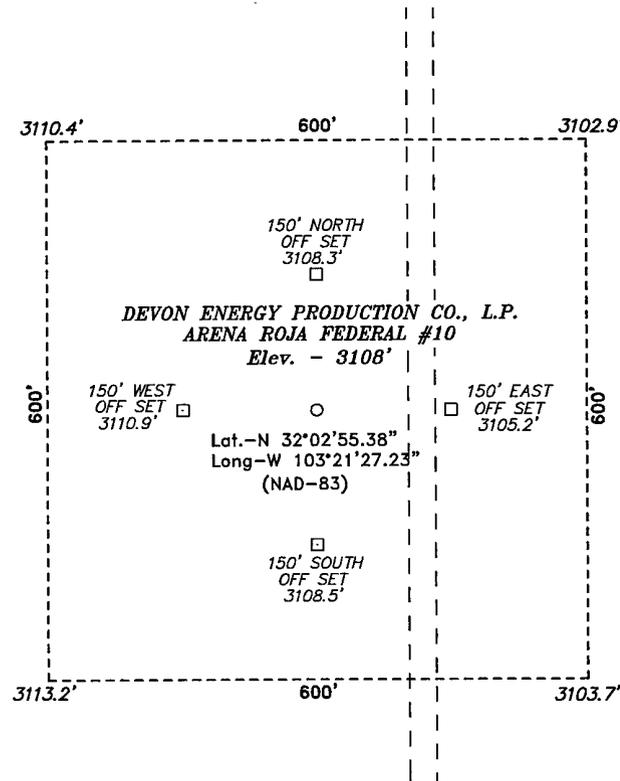
Survey Date: 10-20-2008

Scale: 1" = 2000'

Date: 10-22-2008

DEVON ENERGY
 PROD. CO., L.P.

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



Directions to Location:

FROM THE JUNCTION OF BACKHAM AND FRYING PAN,
GO WEST ON BECKHAM FOR 6.4 MILES TO LEASE
ROAD, ON LEASE ROAD GO NORTH 1.8 MILES TO
PROPOSED LOCATION.

DEVON ENERGY PROD. CO., L.P.

REF: ARENA ROJA FEDERAL #10 / WELL PAD TOPO

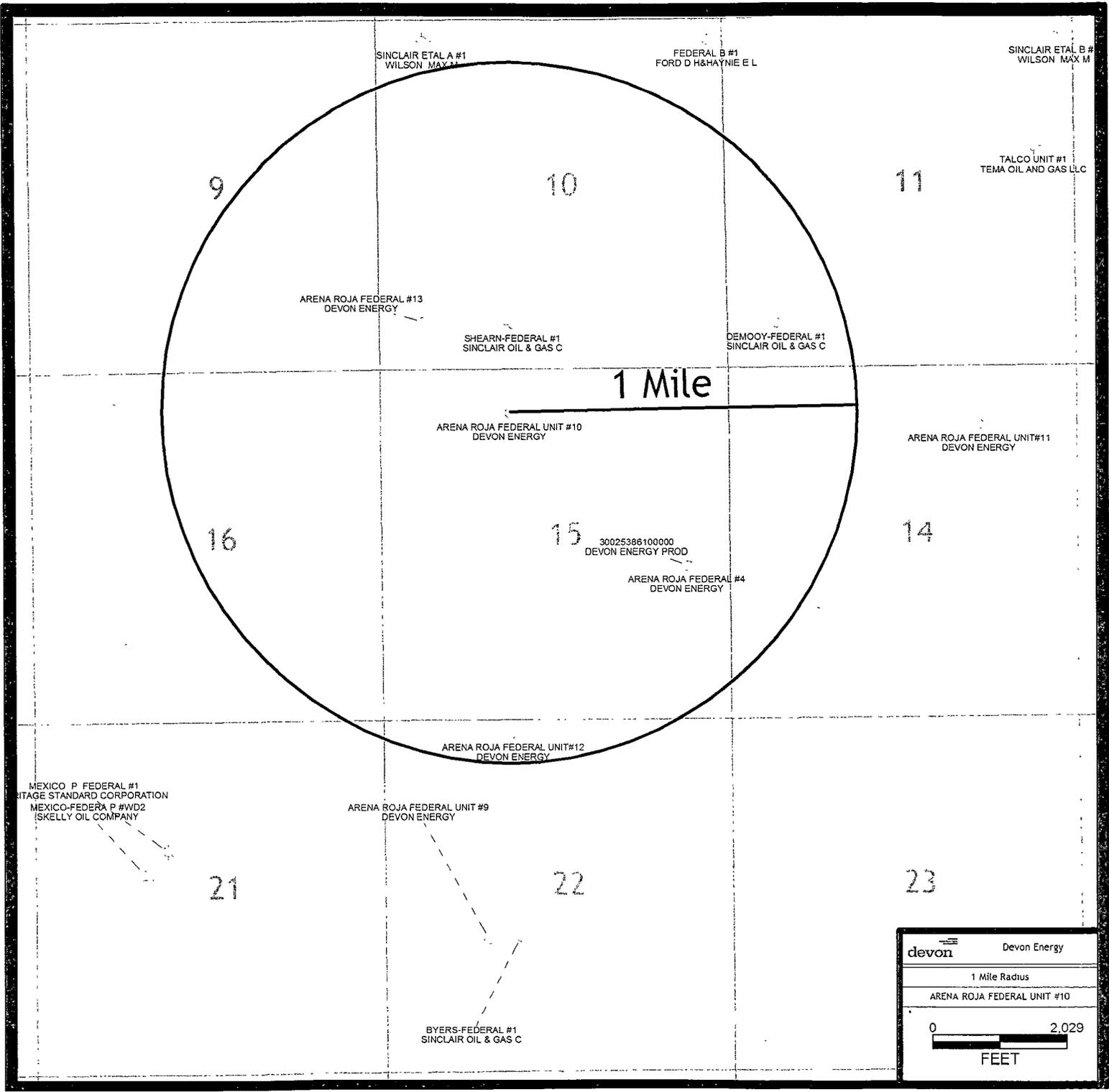
THE ARENA ROJA FEDERAL #10 LOCATED 660' FROM
THE NORTH LINE AND 1960' FROM THE WEST LINE OF
SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST,
N.M.P.M., LEA COUNTY, NEW MEXICO.

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

W.O. Number: 20641 Drawn By: J. M. SMALL

Date: 10-22-2008 Disk: 20641 JMS

Survey Date: 10-20-2008 Sheet 1 of 1 Sheets



SINCLAIR ETAL A #1
WILSON MAX M

FEDERAL B #1
FORD D H&HAYNIE E L

SINCLAIR ETAL B #
WILSON MAX M

9

10

11

TALCO UNIT #1
TEMA OIL AND GAS LLC

ARENA ROJA FEDERAL #13
DEVON ENERGY

SHEARN-FEDERAL #1
SINCLAIR OIL & GAS C

DEMOOY-FEDERAL #1
SINCLAIR OIL & GAS C

1 Mile

ARENA ROJA FEDERAL UNIT #10
DEVON ENERGY

ARENA ROJA FEDERAL UNIT #11
DEVON ENERGY

16

15

14

30025386100000
DEVON ENERGY PROD

ARENA ROJA FEDERAL #4
DEVON ENERGY

ARENA ROJA FEDERAL UNIT #12
DEVON ENERGY

MEXICO P FEDERAL #1
MEXICO-FEDERA P #WD2
SKELLY OIL COMPANY

ARENA ROJA FEDERAL UNIT #9
DEVON ENERGY

21

22

23

BYERS-FEDERAL #1
SINCLAIR OIL & GAS C

	Devon Energy
1 Mile Radius	
ARENA ROJA FEDERAL UNIT #10	
0 2,029	
FEET	

DRILLING PROGRAM - REVISED

Devon Energy Production Company, LP
Arena Roja Federal Unit 10

Surface Location: 660' FNL & 1960' FWL, Unit C, Sec 15 T26S R35E, Lea, NM
 Bottom Hole Location: 660' FNL & 1960' FWL, Unit C, Sec 15 T26S R35E, Lea, NM

1. Geologic Name of Surface Formation

a. Alluvium

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

a. Rustler	1005'	
b. Salado	1395'	
c. Castile	3585'	
d. Delaware	5220'	Oil
e. Bone Spring	9300'	Oil and Gas
f. 2 nd Bone Spring Lime	10925	Oil and Gas
g. 3 rd Bone Spring Lime	11375'	Oil and Gas
h. Wolfcamp	12380'	Oil and Gas
i. Strawn	14155'	Gas
j. Total Depth	15435'	

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

3. Casing Program:

See COA

<u>Hole Size</u>	<u>Hole Interval</u>	<u>OD Csg</u>	<u>Casing Interval</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>
17 1/2"	1132' - 1050' 1132'	13 3/8"	0' - 4050' 1132'	48#	ST&C	H-40
12 1/4"	1050' - 5300'	9 5/8"	0' - 5300'	40#	BT&C	N-80
8 3/4"	5300' - 12,300'	7 5/8"	0 - 12,300'	39#	FJ	P-110HC
6 1/2"	12300 - 15435'	5"	12100 - 15435'	23.2#	FJ	P-110HC

Design Parameter Factors:

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

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

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

See COA

- a. 13 3/8" Surface Lead with 650 sx (35:65) Poz Premium Plus C + 5% NaCl + ¼ lbs/sx Cello Flake, and 4% Bentonite + 1.0% Sodium Metasilicate + 5% MPA-5; 12.8 ppg, 1.97 cf/sx, 10.56 gps. Tail with 300 sx Premium Plus C + 2% CaCl₂ + ¼ lbs/sx Cello Flake; 14.8 ppg, 1.35 cf/sx, 6.35 gps. TOC = 0.
- b. 9 5/8" Intermediate Lead with 1275 sx (50:50) Poz Premium Plus C + 3% Sodium Chloride + 0.05% ASA-301 + ¼ lbs/sx Cello Flake + 10% Bentonite; 12.0 ppg, 2.24 cf/sx, 12.68 gps. Tail with 450 sx (60:40) Poz Premium Plus C + 5% Sodium Chloride + 0.3% Sodium Metasilicate + 4% MPA-5 + ¼ lbs/sx Cello Flake; 13.8 ppg, 1.37 cf/sx, 6.36 gps. TOC = 0.
- c. 7 5/8" 2nd Intermediate Lead with 290 sx (50:50) Poz Class H + ¼ lbs/sx Cello Flake + 0.08% ASA-301 + 10% Bentonite + 0.4% R-21 + 0.5% FL-52A; 11.8 ppg, 2.30 cf/sx, 13.1 gps. Tail with 605 sx (15:61:11) Poz Premium Plus C + 0.3% R-3 + 1% KCl + 0.75% EC-1 + ¼ lbs/sx Cello Flake + 0.4% CD-32 + 3 lbs/sx LCM-1 + 0.6% FL-25 + 0.6% FL-52A; 13.3 ppg, 1.56 cf/sx, 7.46 gps. TOC = 4800'.
- d. 5" Liner Cement with 375 sx Class H + 0.75% EC-1 + 0.7% CD-32 + 1.2% FL-62 + 0.1% Sodium Metasilicate + 0.3% R-21; 16.5 ppg, 1.06 cf/sx, 4.14 gps. TOC = 12100'

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

5. **Pressure Control Equipment:** See COA

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

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

6. Proposed Mud Circulation System

<u>Depth</u>	<u>Mud Wt.</u>	<u>Visc</u>	<u>Fluid Loss</u>	<u>Type System</u>
0' - 1050' 1132'	8.4 - 8.8	32 - 34	NC	Fresh Water/Gel
1132' - 5300'	8.8 - 9.2	28 - 30	NC	Cut Brine
5300' - 8160'	8.8 - 9.0	28	NC	Fresh Water
8160' - 12300'	9.0 - 9.2	32 - 40	NC	Fresh Water
12300' - 15435'	11.0 - 14.5	33 - 60	9 - 12 cc	Fresh Water

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

7. Auxiliary Well Control and Monitoring Equipment:

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

8. Logging, Coring, and Testing Program:

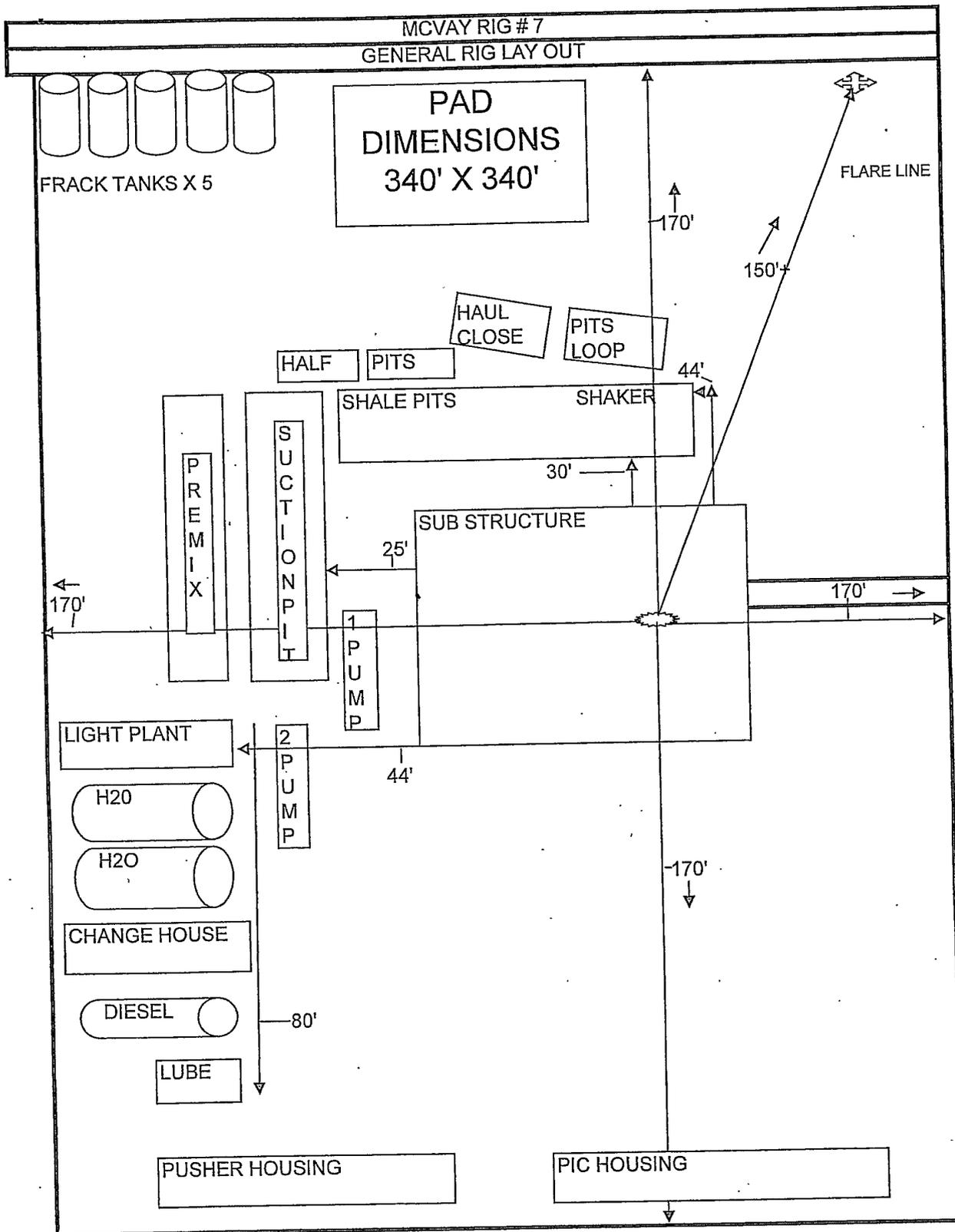
See COA

- a. Drill stem tests will be based on geological sample shows.
- b. 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.
- c. The open hole electrical logging program will be:
 - i. Total Depth to Intermediate Casing Dual Laterolog-Micro Laterolog with SP and Gamma Ray. Compensated Neutron - Z Density log with Gamma Ray and Caliper.
 - ii. Total Depth to Surface Compensated Neutron with Gamma Ray
 - iii. No coring program is planned
 - iv. 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.

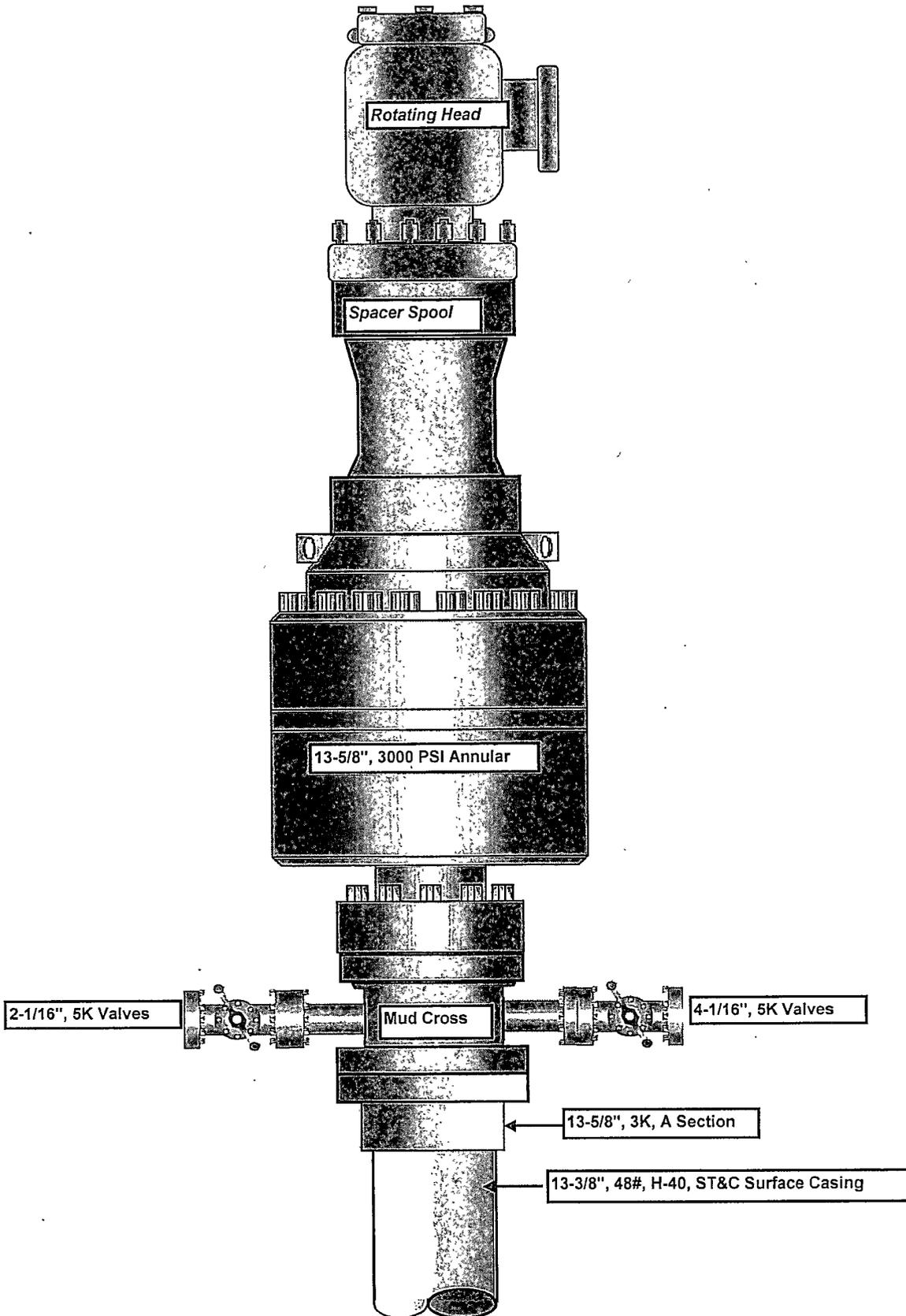
9. Potential Hazards:

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

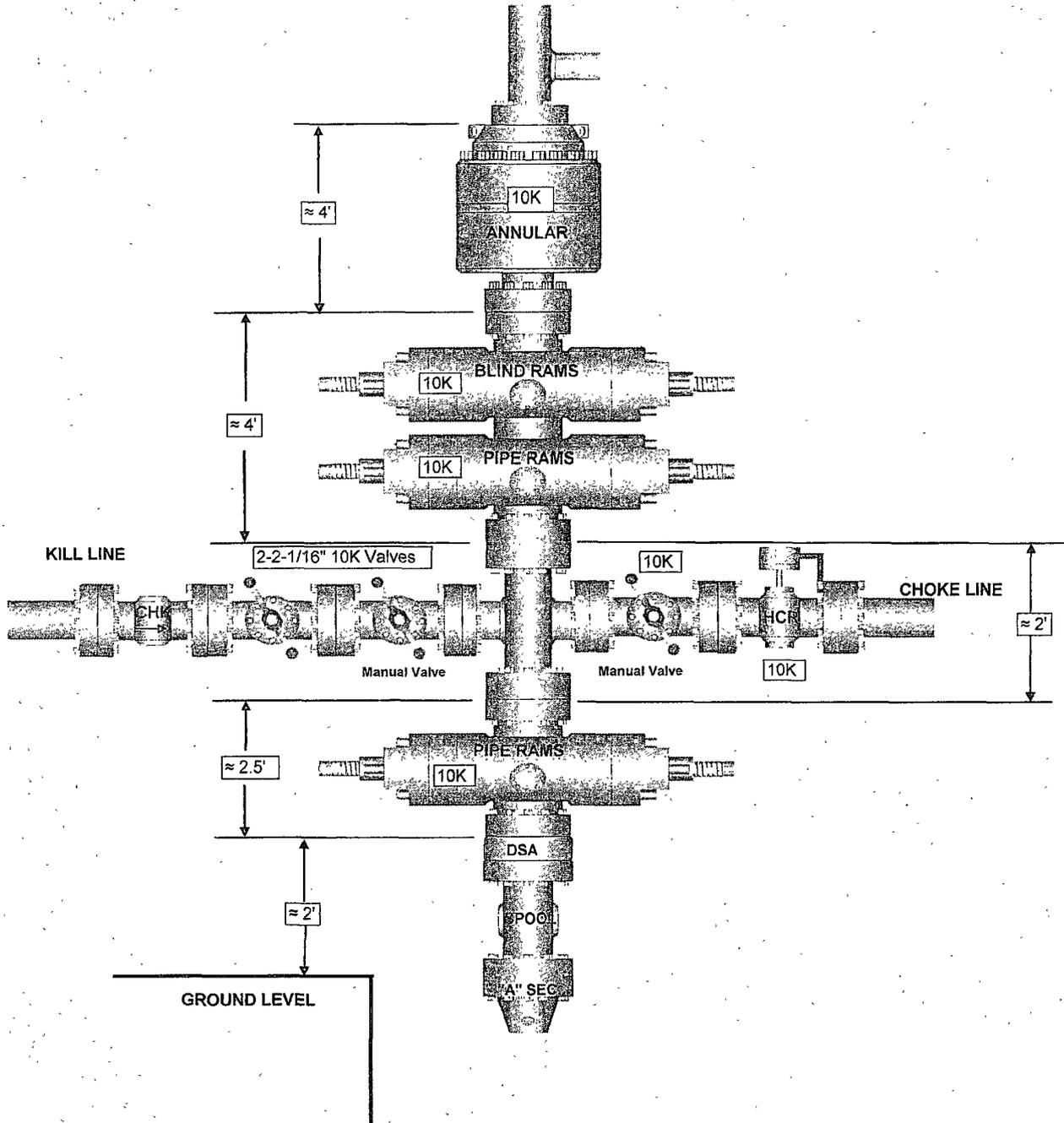
- **10. Anticipated Starting Date and Duration of Operations:**
 - a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 45 days.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



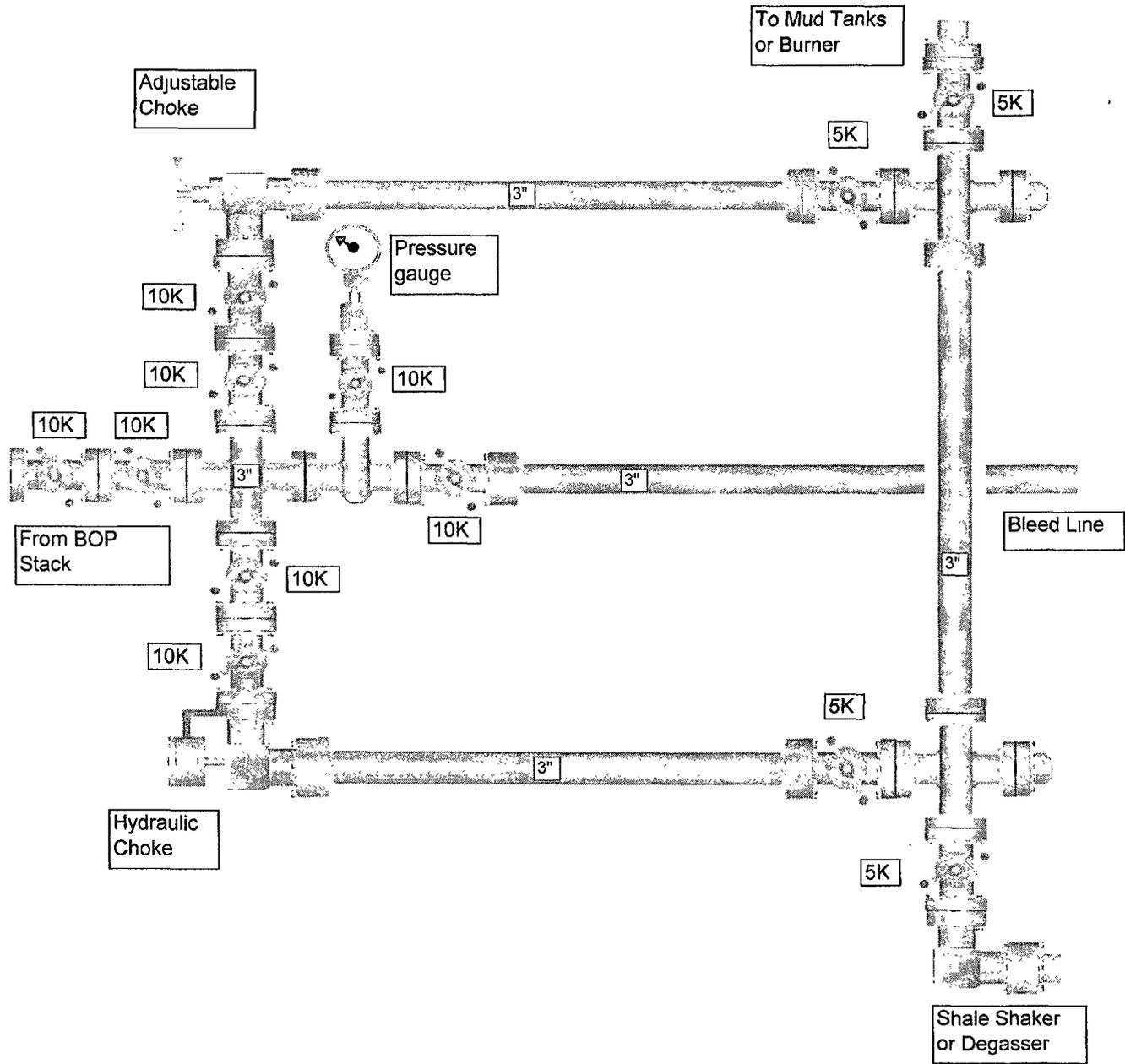
13-5/8" 3K Annular



BOP STACK
SIZE: 10,000#



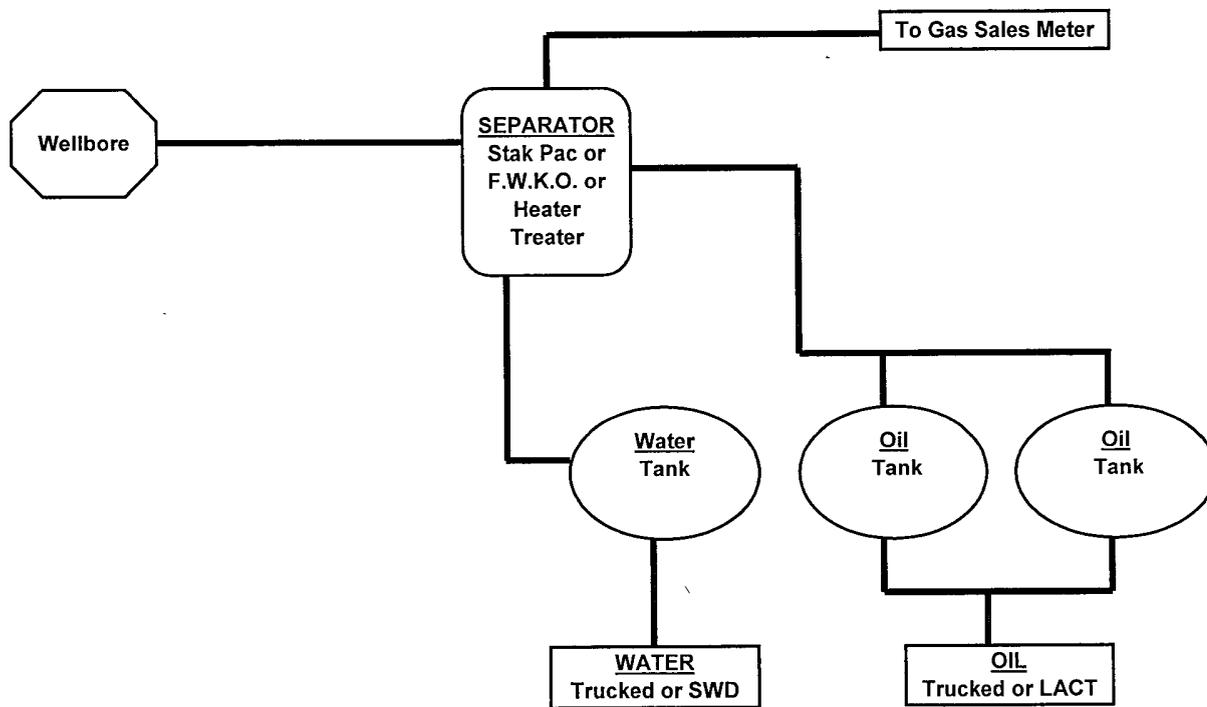
10,000 PSI CHOKE MANIFOLD



1001 0100

DEVON ENERGY PRODUCTION COMPANY LP

General Production Facilities Diagram





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

Hydrogen Sulfide (H₂S) Contingency Plan

For

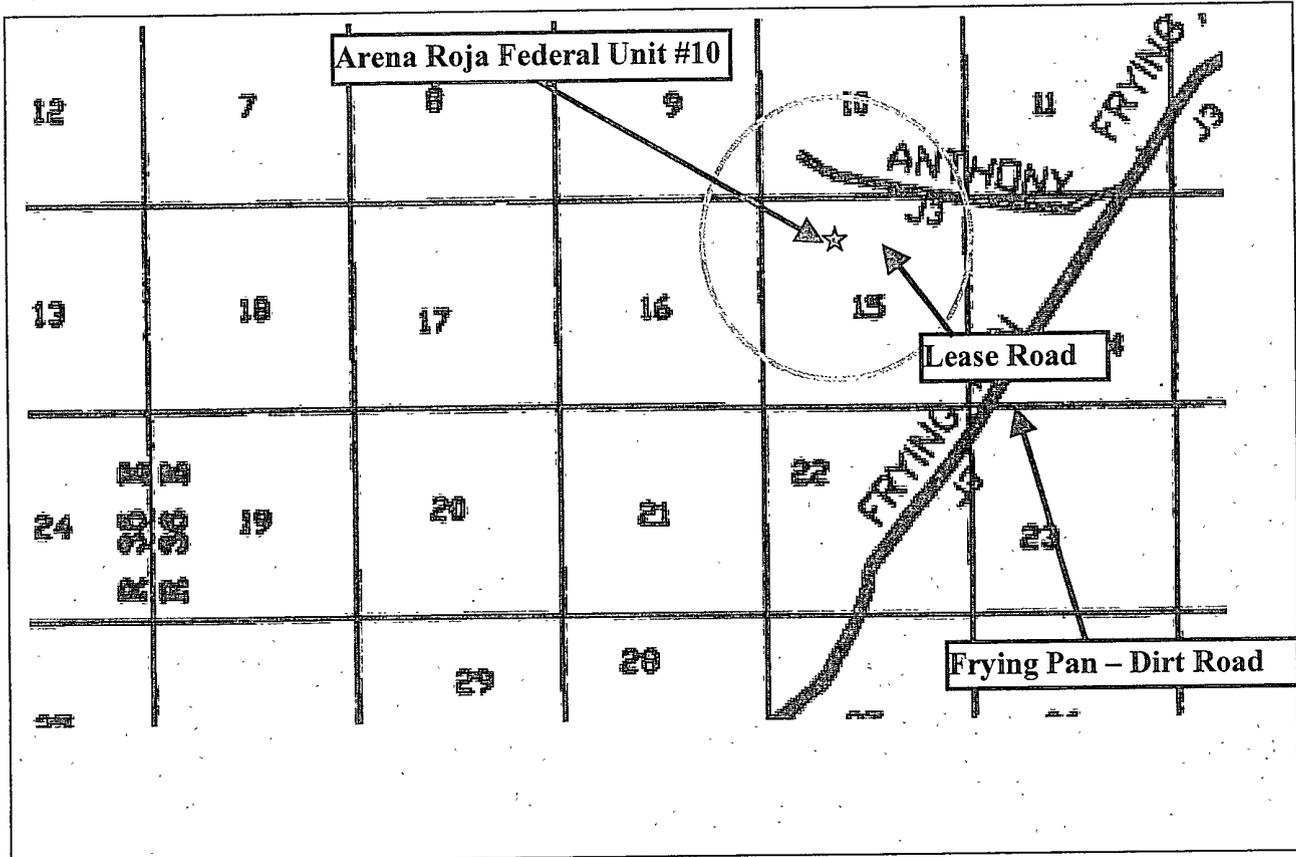
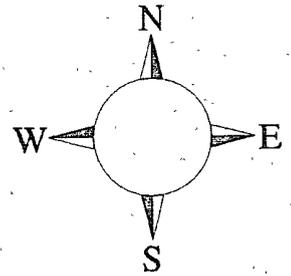
Arena Roja Federal Unit # 10

660' FNL & 1960' FWL,
Sec-15, T-26S R-35E

Lea County NM

Arena Roja Federal Unit # 10

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 South down lease road to Frying Pan Road or North on lease road to Anthony Road. Crews should then block entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE There are no homes or buildings in or near the ROE.

Emergency Procedures

In the case of a release of gas containing H₂S, the first responder(s) must isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

All responders must have training in the detection of H₂S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H₂S monitors and air packs in order to control the release. Use the "buddy system" to ensure no injuries during the response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (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	H ₂ S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	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 – Bill Greenlees.....(405) 203-7778....	(405) 552-8194....	(405) 324-9994	

Agency Call List

<u>Lea County (575)</u>	<u>Hobbs</u>	
	State Police.....	392-5588
	City Police.....	397-9265
	Sheriff's Office	393-2515
	Ambulance.....	911
	Fire Department	397-9308
	LEPC (Local Emergency Planning Committee).....	393-2870
	NMOCD.....	393-6161
	US Bureau of Land Management.....	393-3612
<u>Eddy County (575)</u>	<u>Carlsbad</u>	
	State Police	885-3137
	City Police	885-2111
	Sheriff's Office.....	887-7551
	Ambulance.....	911
	Fire Department.....	885-2111
	LEPC (Local Emergency Planning Committee).....	887-3798
	US Bureau of Land Management.....	887-6544
	New Mexico Emergency Response Commission (Santa Fe) ...	(505)476-9600
	24 HR	(505) 827-9126
	National Emergency Response Center (Washington, DC)	(800) 424-8802

Emergency Services

	Boots & Coats 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;



PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Prod Co
LEASE NO.:	NM96256
WELL NAME & NO.:	10 Arena Roja Federal Unit
SURFACE HOLE FOOTAGE:	660' FNL & 1960' FWL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 15, T. 26 S., R 35 E., NMPM
COUNTY:	Lea County, New Mexico

TABLE OF CONTENTS

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

- General Provisions**
- Permit Expiration**
- Archaeology, Paleontology, and Historical Sites**
- Noxious Weeds**
- Special Requirements**
 - Lesser Prairie Chicken
 - Ground Level Abandoned Hole 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
 - Logging requirements
 - Casing/Cement
- Production (Post Drilling)**
- Reserve Pit Closure/Interim Reclamation**
- Final Abandonment/Reclamation**

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

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

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

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

C. RESERVE PITS

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

D. FEDERAL MINERAL MATERIALS PIT

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

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

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

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

B. CASING

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

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

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

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

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

Possible lost circulation and water flows in the Artesia group.

Possible high pressure bursts within the Wolfcamp formation.

Possible over pressure in the Pennsylvanian section.

1. The 13-3/8 inch surface casing shall be set at approximately 1,132 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) 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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

Cement to surface. If cement does not circulate see B.1.a, c-d above. Set casing in the Lamar Limestone at approximately 5,300 feet.

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

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

- Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification. **Set casing within the 3rd Bone Spring lime and above the Wolfcamp.**

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

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

- Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement may be required because excess cement calculates to only 24%.**

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

C. PRESSURE CONTROL

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

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

D. DRILLING MUD

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

E. DRILL STEM TEST

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

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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.

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

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