

OCD-ARTESIA

SUBMIT IN TRIPLICATE*

(Other 1 is on rev. 1)

FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒Month - Year
FEB 26 2007DEEPEN ☐

b. TYPE OF WELL

OIL
WELL ☐GAS
WELL ☒SINGLE
ZONE ☐MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

REX ENERGY

23828

(BILL HEARD SIERRA ENGINEERING 432-683-8000)

3. ADDRESS AND TELEPHONE NO.

SIERRA ENGINEERING 10 DESTA DRIVE
SUITE 260 EAST MIDLAND, TEXAS 79705 (432-683-8000)

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

1830

1780-1980 FNL & 1980-1980 FEL SECTION 20 T22S-R22E EDDY CO. NM

At proposed prod. zone SAME

CARLSBAD CONTROLLED WATER BASIN

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

Approximately 30 miles West of Carlsbad New Mexico

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drig. unit line, if any)

660'

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

NA

16. NO. OF ACRES IN LEASE

640

19. PROPOSED DEPTH

9500'

17. NO. OF ACRES ASSIGNED

320

20. ROTARY OR CABLE TOOLS

ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

4430' GR.

22. APPROX. DATE WORK WILL START*
WHEN APPROVED

23.

PROPOSED CASING AND CEMENTING PROGRAM

Bond # NM B000388

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	Conductor 14"	NA	40±'	Cement to surface/Redi-mix.
12 1/2"	H-40 9 5/8"	32.3#	1850'	665 Sx. Circulate cement
8 3/4"	N-80 4 1/2"	11.6#	9500'	1812 Sx. Est. TOC 5000' FS.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

1. Drill 17 1/2" hole to 40' ± and set 40' ± of 14" conductor pipe and cement to surface with Redi-mix.

2. Drill 12 1/2" hole to 1850'. Run and set 1850' of 9 5/8" 32.3# H-40 ST&C casing. Cement with 500 Sx. of 35/65 Class "C" cement + 2% CaCl₂ + 6% Bentonite, tail in with 165 Sx. of Class "C" cement + 2% CaCl₂, circulate cement to surface.

3. Drill 8 3/4" hole to 9500'. Run and set 9500' of 4 1/2" 11.6# N-80 LT&C casing. Cement with 212 Sx. of 50/50 Class "H" POZ + 10% Gel + anti-foamer and retarder. Tail in with 1600 Sx. of 50/50 Class "H" + 25 Gel, + anti-foamer, retarder, and fluid loss additive. Estimate top of cement 5000' from surface.

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout prevention program, if any.

24.

SIGNATURE

TITLE Agent

DATE 08/29/06

(This space for Federal or State office use)

PERMIT NO.

Application approval does not warrant or certify that the applicant holds legal

CONDITIONS OF APPROVAL, IF ANY:

If earthen pits are used in
association with the drilling of this
well, an OCD pit permit must be
obtained prior to pit construction.

the applicant to conduct operations thereon.

FEB 20 2007

APPROVED BY

/s/ Don Peterson

TITLE

FIELD MANAGER

DATE

*See Instructions On Reverse Side

APPROVAL FOR 1 YEAR

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires January 31, 2004

OCD-ARTESIA
SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well ☒ Oil Well ☒ Gas Well ☐ Other
2. Name of Operator
REX ENERGY (JOE CLEMENT 432-685-0075) EXT-4
3a. Address 500 WEST TEXAS AVE.
SUITE 940 MIDLAND, TEXAS 79701 3b. Phone No. (include area code)
432-685-0075
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
1780' FNL & 1830' FEL SECTION 20 T22S-R22E EDDY CO. NM

5. Lease Serial No.
NM-8420A
6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.
PATTERSON "20" # 1
9. API Well No.

10. Field and Pool, or Exploratory Area

11. County or Parish, State
EDDY CO. NEW MEXICO

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize <input type="checkbox"/> Deepen <input type="checkbox"/> Production (Start/Resume) <input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input checked="" type="checkbox"/> Alter Casing <input type="checkbox"/> Fracture Treat <input type="checkbox"/> Reclamation <input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair <input type="checkbox"/> New Construction <input type="checkbox"/> Recomplete <input checked="" type="checkbox"/> Other <u>Move location</u>
	<input type="checkbox"/> Change Plans <input type="checkbox"/> Plug and Abandon <input type="checkbox"/> Temporarily Abandon
	<input type="checkbox"/> Convert to Injection <input type="checkbox"/> Plug Back <input type="checkbox"/> Water Disposal

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

SEE ATTACHE SHEET

*For Prod Cog - cement to extend a minimum
of 200' inside intermediate cog.*

*Don Peterson
Pet. Eng
1/25/07*

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Joe T. Janica

Title Agent

Signature

Date 01/23/07

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Don Peterson

ACTING FIELD MANAGER

Date

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

CARLSBAD FIELD OFFICE

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 reverse)

1. Rex Energy requests the approval to move their PATTERSON "20" # 1

From: 1980' FNL & 1980' FEL SECTION 20 T22S-R22E EDDY CO. NM.

To: 1780' FNL & 1830' FEL SECTION 20 T22S-R22E EDDY CO. NM

The reason for this move is to comply with the request of the Bureau of Land Management Surface Specialist due to the topography.

2. Drill 26" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
3. Drill 17½" hole to 875'±. Run and set 875' of 13 3/8" 48# H-40 ST&C casing. Cement with 500 Sx. of Halco Light cement + additives, tail in with 400 Sx. of Class "C" cement + 2% CaCl, + ¼# Flocele/Sx. Circulate cement to surface.
4. Drill 12½" hole to 1850'±. Run and set 1850' of 9 5/8" 32.3# H-40 ST&C casing. Cement with 500 Sx. of 35/65 Class "C" POZ + 6% Bentonite, + 2% CaCl, tail in with 175 Sx. of Class "C" cement + 2% CaCl, + ¼# Flocele/Sx. circulate cement to surface.
5. Drill 8 3/4" hole to 9500'. Run and set 9500' of 4½" 11.6# N-80 LT&C casing. Cement with 215 Sx of 50/50 Class "H" POZ +10% Gel, + anti-foamer & retarder, tail in with 1600 Sx. of 50/50 Class "H" POZ + 2% Gel, + anti-foamer, + retarder + fluid loss additive, estimate top of cement 5000' from surface.

State of New Mexico

DISTRICT I

1625 N. FRENCH DR., HOBBS, NM 88240

Energy, Minerals and Natural Resources Department

Form C-102

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505Revised October 12, 2005
Submit to Appropriate District OfficeState Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

1625 S. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 96895	Pool Name ROCKY ARROYO SOUTHEAST-MORROW
Property Code	Property Name PATTERSON 20	Well Number 1
OGRID No. 238281	Operator Name REX ENERGY	Elevation 4422'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	20	22-S	22-E		1780	NORTH	1830	EAST	EDDY

Bottom Hole Location If Different From Surface

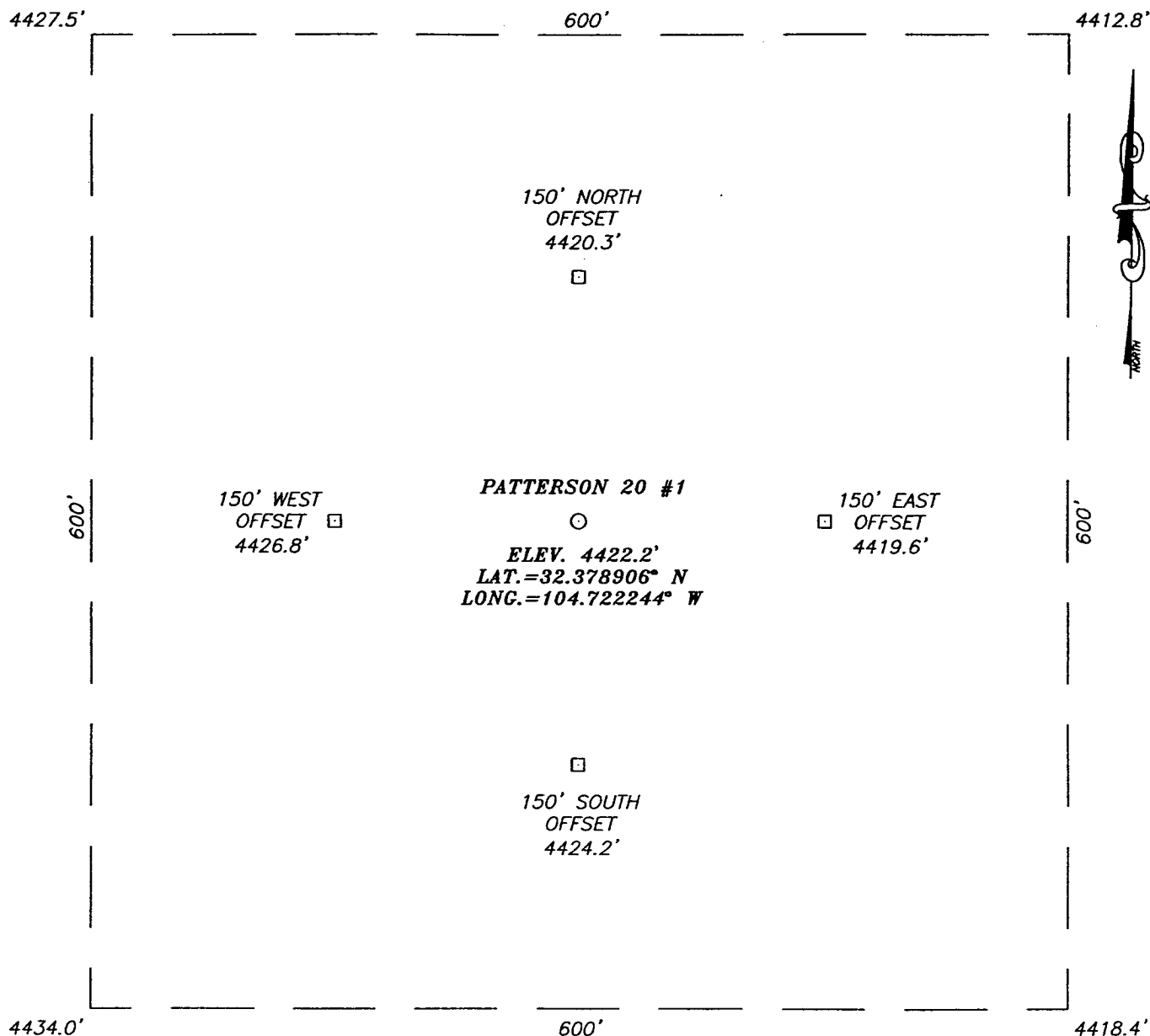
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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

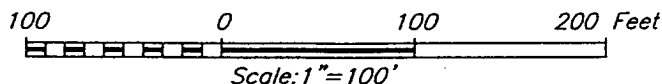
<p>NM-8420A</p> <p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=501779.2 N X=379937.9 E</p> <p>LAT.=32.378906° N LONG.=104.722244° W</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Joe T. Janica</i> Signature Date 01/23/07</p> <p>Joe Janica Printed Name Agent</p>
<p></p>	<p>SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>JANUARY 4, 2007</p> <p>Date Surveyed AR</p> <p>Signature & Seal of Professional Surveyor</p> <p><i>Gary H. Edson</i> 1/11/07 07-11.0012</p> <p>Certificate No. GARY EDSON 12641</p>

SECTION 20, TOWNSHIP 22 SOUTH, RANGE 22 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

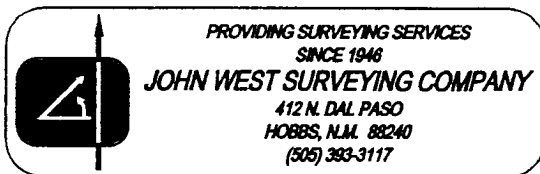
FROM THE INTERSECTION OF ST. HWY. #137 AND MARATHON RD, GO WEST ON MARATHON RD. APPROX. 9.2 MILES TO BOX CANYON RD. #401. TURN RIGHT AND GO NORTHWEST @ BOX CANYON RD. APPROX. 2.1 MILES. TURN LEFT AND GO SOUTH APPROX. 6.3 MILES. THIS LOCATION IS APPROX. 300 FEET WEST OF ROAD.



REX ENERGY

PATTERSON 20 #1 WELL
 LOCATED 1780 FEET FROM THE NORTH LINE
 AND 1830 FEET FROM THE EAST LINE OF SECTION 20,
 TOWNSHIP 22 SOUTH, RANGE 22 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO.

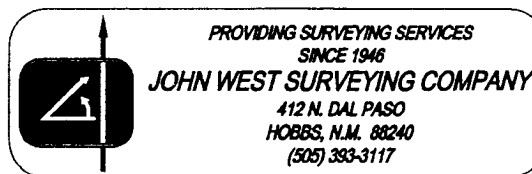
Survey Date: 01/04/07		Sheet 1 of 1 Sheets	
W.O. Number: 07.11.0012		Dr By: AR	Rev 1:N/A
Date: 01/10/07	Disk: CD#5	07110012	Scale: 1"=100'



This topographic map depicts the area around the Patterson 20 #1 well. The well is marked with a black dot and labeled "PATTERSON 20 #1" in a rectangular box. The map features contour lines indicating elevation, with labels such as 4400, 4413, 4437, 4500, 4531, 4590, and 4600. Several landmarks are identified, including "Tank", "Drill Hole", "Gas Well", "Four Wells", and "Arroyo". The map is divided into sections by a grid, with section numbers 16, 17, 18, 19, 20, 21, 28, 29, and 30 visible. A dashed line represents a road or path, and a solid line indicates a boundary or feature. The map is oriented with North at the top.

CONTOUR INTERVAL:
RED BLUFF DRAW, N.M. - 20'
CAWLEY DRAW, N.M. - 20'

U.S.G.S. TOPOGRAPHIC MAP
RED BLUFF DRAW, N.M.



APPLICATION TO DRILL

REX ENERGY
 PATTERSON "20" # 1
 UNIT "G" SECTION 20
 T22S-R22E EDDY CO. NM

In response to questions asked under Section II of Bulletin NTL-6, the following information on the above well is provided for your information.

1. LOCATION: ^{1780'} ^{1830'}
~~1980'~~ FNL & ~~1980'~~ FEL SECTION 20 T22S-R22E EDDY CO. NM
2. ELEVATION ABOVE SEA LEVEL: 4430' GR.
3. GEOLOGIC NAME OF SURFACE FORMATION: Quaternary Aeolian Deposits.
4. DRILLING TOOLS AND ASSOCIATED EQUIPMENT: Conventional rotary drilling rig using drilling mud as a circulating medium for solids removal from hole.
5. PROPOSED DRILLING DEPTH: 9500'

6. ESTIMATED TOPS OF GEOLOGICAL MARKERS:

Bone Spring	3275'	Wolfcamp Lime	4450'
Abo	3875'	Atoka	8500'
Wolfcamp Shale	4400'	Morrow	8900'

7. POSSIBLE MINERAL BEARING FORMATION:

Wolfcamp	Gas
Morrow	Gas

8. CASING PROGRAM:

Hole Size	Interval	OD of Casing	Weight	Thread	Collar	Grade
17 1/2"	0-40'±	14"	NA	NA	NA	Conductor
Need SFE string ~ 900' to protect SFE H&C & get through new SFE LC zone						
Capitan - 12 1/2"	0-1850'	9 5/8"	32.3#	8-R	ST&C	H-40
8 3/4"	0-9500'	4 1/2"	11.6#	8-R	LT&C	N-80

APPLICATION TO DRILL

REX ENERGY
 PATTERSON "20" # 1
 UNIT "G" SECTION 20
 T22S-R22E EDDY CO. NM

9. CASING CEMENTING AND SETTING DEPTHS:

14"	Conductor	Set 40' of 14" conductor pipe and cement to surface with Redi-mix.
9 5/8"	Surface	Set 1850' of 9 5/8" 32.3# H-40 ST&C casing. Cement with 500 Sx. of 35/65 Class "C" POZ + 2% CaCl ₂ + 6% Bentonite, tail in with 165 Sx. of Class "C" cement + 2% CaCl ₂ , circulate cement to surface.
4 1/2"	Production	Set 9500' of 4 1/2" 11.6# N-80 LT&C casing. Cement with 212 Sx. of 50/50 Class "H" POZ + 10% Gel + retarder + anti-foamer, tail in with 1600 Sx. of 50/50 Class "H" POZ + 2% Gel, + anti-foamer, + retarder and fluid loss additive. Estimate top of cement 5000'±.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 900 Series 3000 PSI working pressure B.O.P. consisting of an annular bag type preventor, middle blind rams, and bottom pipe rams. The B.O.P. will be nipped up on the 9 5/8" casing and tested to API specifications. The B.O.P. will be operated at least once in each 24 hour period and the blind rams will be operated when the drill pipe is out of hole on trips. Full opening stabbing valve and upper kelly cock will be utilized. Exhibit "E-1" shows a hydraulically operated closing unit and a 3" 3000 PSI choke manifold with dual adjustable chokes. No abnormal pressures or temperatures are expected in this well.

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE SYSTEM
40-1850'	8.4-8.7	29-38	NC	Fresh water spud mud add paper to control seepage. High viscosity sweeps to clean hole.
1850'-4200'	8.4-9.2	29-38	NC	Fresh water as 4200' is reached add brine to add weight prior to drilling the Wolfcamp.
4200-7300'	9.2-9.5	29-36	NC	Same as above cut brine
7300-9500'	9.0-9.2	29-38	10 cc or less	Cut brine using a Polymer to control water loss.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, & casing the viscosity and/or water loss may have to be adjusted to meet these needs.

APPLICATION TO DRILL

REX ENERGY
PATTERSON "20" # 1
UNIT "G" SECTION 20
T22S-R22E EDDY CO. NM

12. LOGGING, CORING, AND TESTING PROGRAM:

- A. Open hole logs: Dual Laterolog, MSFL, CNL, LDT, Gamma Ray Caliper from TD back to 9 5/8" casing shoe.
- B. Cased hole log: Gamma Ray, CNL from 9 5/8" casing shoe back to surface.
- C. Rig up mud logger on hole at 1850' and keep on hole to TD.
- D. No cores or DST's are planned at this time.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H²S in this area. If H²S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 5000 PSI, and Estimated BHT 195°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

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 operation and drilling is expected to take 34 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The MORROW formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialized as a gas well.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Proper use of safety equipment and life support systems.
 - D. Principle and operation of H₂S detectors, warning system and briefing areas.
 - E. Evacuation procedure, routes and first aid.
 - F. Proper use of 30 minute pressure demand air pack.
2. H₂S Detection and Alarm Systems
 - A. H₂S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.
3. Windsock and/or wind streamers
 - A. Windsock at mudpit area should be high enough to be visible.
 - B. Windsock at briefing area should be high enough to be visible.
 - C. There should be a windsock at entrance to location.
4. Condition Flags and Signs
 - A. Warning sign on access road to location.
 - B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H₂S present in dangerous concentration. Only emergency personnel admitted to location.
5. Well control equipment
 - A. See exhibit "E"
6. Communication
 - A. While working under masks chalkboards will be used for communication.
 - B. Hand signals will be used where chalk board is inappropriate.
 - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephoned will be available at most drilling foreman's trailer or living quarters.
7. Drillstem Testing
 - A. Exhausts will be watered.
 - B. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
 - C. If location is near any dwelling a closed D.S.T. will be performed.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

8. Drilling contractor supervisor will be required to be familiar with the effects H_2S has on tubular goods and other mechanical equipment.
9. If H_2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H_2S scavengers if necessary.

SURFACE USE PLAN

REX ENERGY
PATTERSON "20" # 1
UNIT "G" SECTION 20
T22S-R22E EDDY CO. NM

1. EXISTING ROADS: Area maps, Exhibit "B" is a reproduction of a County General Highway Map. Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing roads and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications.

A. Exhibit "A" shows the proposed well site as staked.

B. From Carlsbad New Mexico take U.S. Hi-way 285 North 11.5± miles to the junction with State Road 137 continue to going West on 137 to the junction with Marathon Road bear Right on Marathon Road go west 9.2± miles to Box Canyon Road CR-400 turn Right go 2.1± miles, turn Left and follow road approximately 6.5 miles to location on the West side of road.

C. Exhibit "C" shows a topographic map showing roads in more detail and possible routes of flowlines.

2. PLANNED ACCESS ROADS: No additional new road will be required.

A. The access road will be crowned and ditched to a 12'00" wide travel surface with a 40' right-of-way.

B. Gradient on all roads will be less than 5.00%.

C. Turn outs will be constructed where necessary.

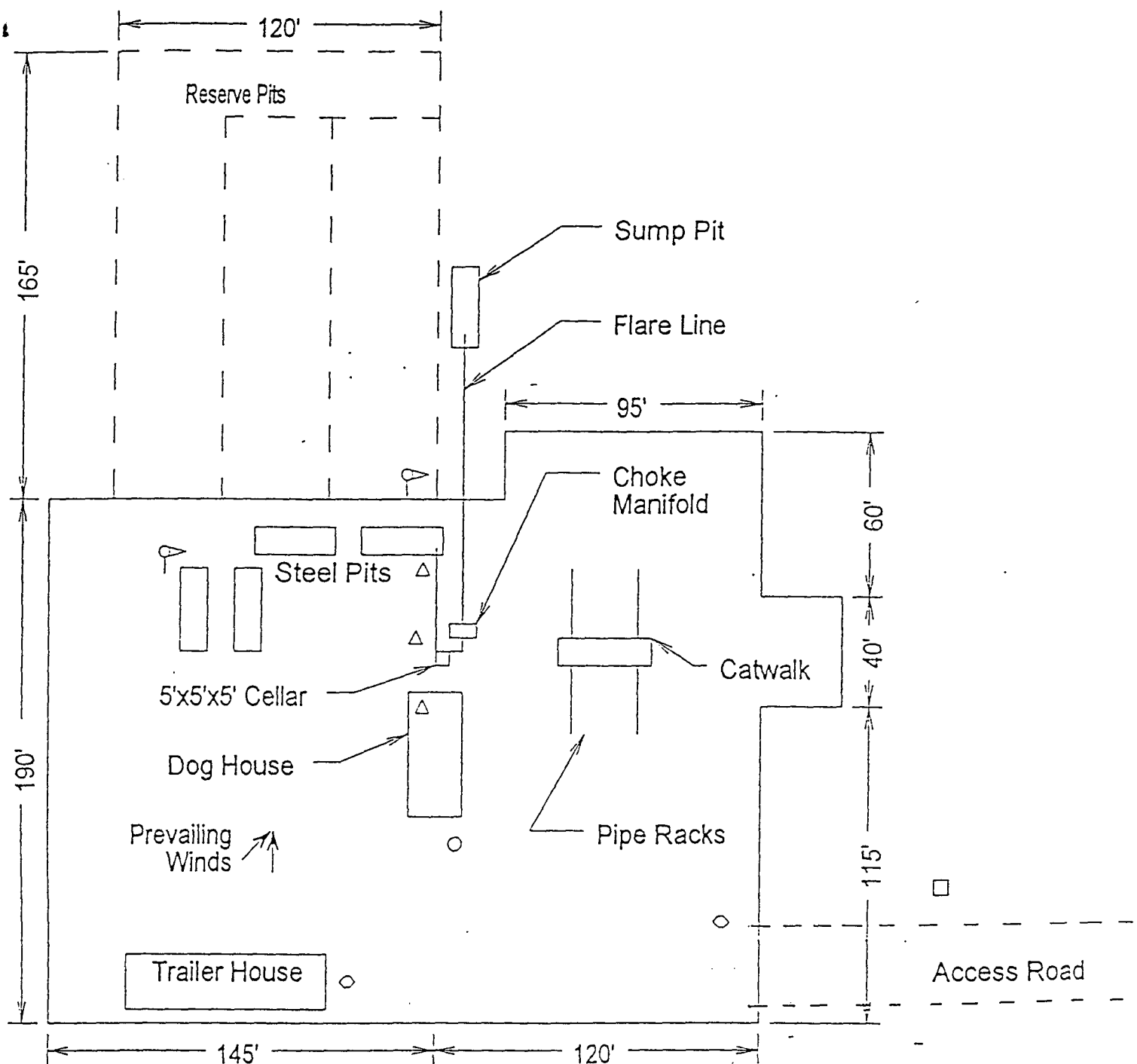
D. If needed, road will be surfaced with a minimum of 4" of caliche. This material will be obtained from a local source.

E. Centerline for the new access road has been flagged. Earthwork will be as required by field conditions.

F. Culverts in the access road will not be used. The road will be constructed to utilize low water crossings for drainage as required by the Topography.

3. LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS EXHIBIT "A-1"

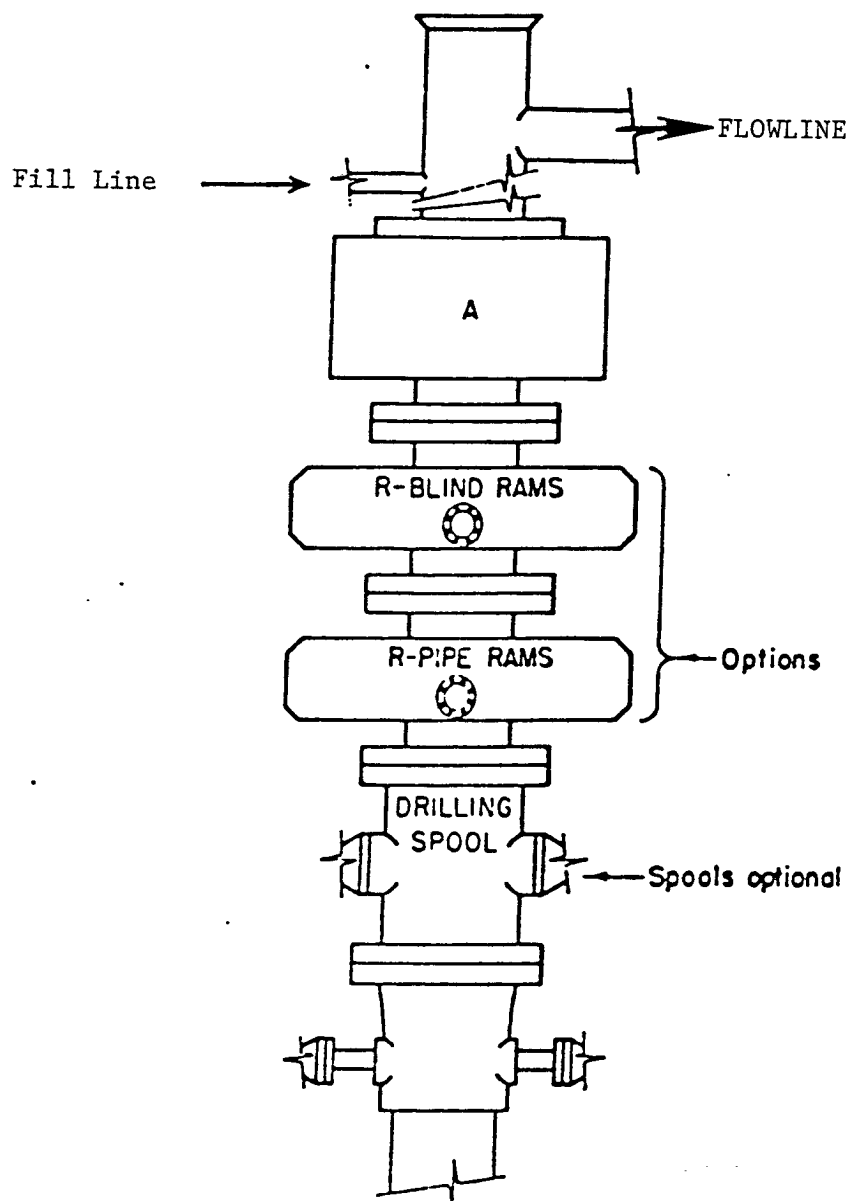
A. Water wells	-	½ Mile Southeast of location.
B. Disposal wells	-	None known
C. Drilling wells	-	None Known
D. Producing wells	-	As shown on Exhibit "A-1"
E. Abandoned wells	-	As shown on Exhibit "A-1"



- Wind Direction Indicators (wind sock or streamers)
- △ H2S Monitors (alarms at bell nipple and shale shaker)
- Briefing Areas
- Remote BOP Closing Unit
- Sign and Condition Flags

EXHIBIT "D"
RIG LAY OUT PLAT

REX ENERGY
PATTERSON "20" # 1
UNIT "G" SECTION 20
T22S-R22E EDDY CO. NM

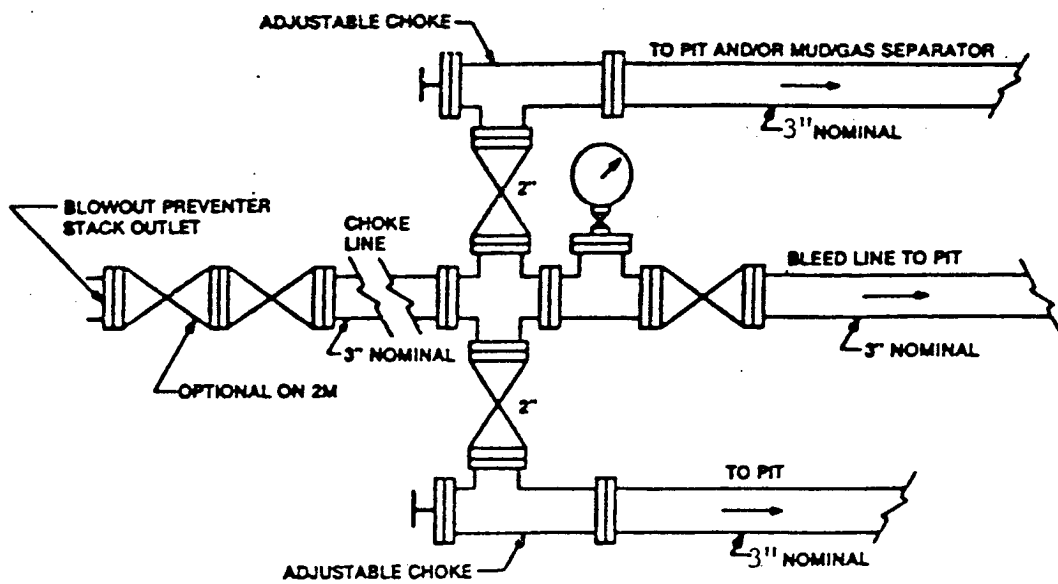


ARRANGEMENT SRRA

SERIES 900 3000 PSI WP

EXHIBIT "E"
SKETCH OF B.O.P. TO BE USED ON

REX ENERGY
PATTERSON "20"# 1
UNIT "G" SECTION 20
T22S-R22E EDDY CO. NM



Typical choke manifold assembly for 3M WP system

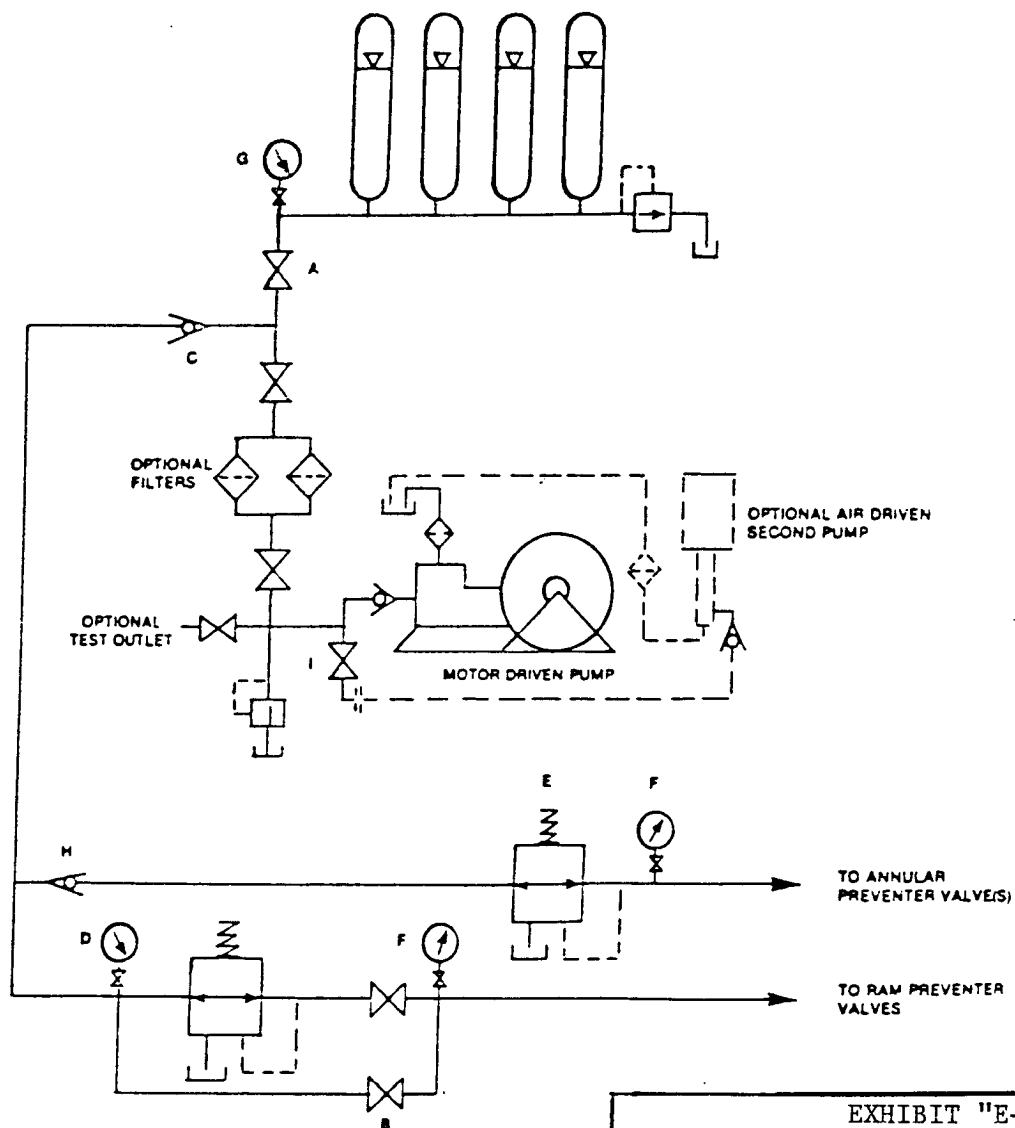


EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

REX ENERGY
PATTERSON "20" # 1
UNIT "G" SECTION 20
T22S-R22E EDDY CO. NM

Conditions of Approval

Cave and Karst

EA#: NM-080-06-1468

Lease #: NM-8420A

Rex Energy

Patterson 20 Fed. #1

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Berming:

Any tank batteries will be constructed and bermed large enough to contain any spills that may occur.

Bermed areas will be lined with rip-stop padding to prevent tears or punctures in liners and lined with a permanent 20 mil plastic liner.

Closed Mud System with Cuttings Pit and Cuttings Removed:

A closed mud system or steel tanks will be utilized to drill the well. A 70X100 foot cuttings pit will be allowed for this location. The cuttings pit will be lined with 4 oz. felt and a layer of 20 mil. plastic. All fluids and cuttings will be hauled off site for disposal.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Rotary drilling techniques in cave or karst areas will include the use of fresh water as a circulating medium in zones where caves or karst features are expected. See geologist report for depth.

Florescene Dye (Acid Yellow 73):

Sixteen ounces of Yellow Green (Acid Yellow 73) Florescene dye will be added to the drilling fluid during the drilling of the first 750 feet of the well.

Casing:

All casing will meet or exceed National Association of Corrosion Engineers specifications pertaining to the geology of the location and be run to American Petroleum Institute and BLM standards.

Cementing:

Three strings of casing will be cemented to the surface.

CONDITIONS OF APPROVAL - DRILLING

Well Name & No. 1-Patterson 20
Operator's Name: Rex Energy
Location: 1980FNL, 1980FEL, Section 20, T-22-S, R-22-E
Lease: NM8420A

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822 - for wells in Eddy County in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 13-3/8 inch 9-5/8 inch 4-1/2 inch

C. BOP tests

2. **H₂S is always a possible hazard, 8000 ppm noted in the gas stream from the Dagger Draw Upper Penn.** A hydrogen sulfide plan is attached to the APD.

3 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.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

6. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

7. Gamma-Ray/Neutron logs shall be run from the base of the Salado Formation to the surface; cable speed not to exceed 30 feet per minute.

II. CASING:

1. The 13-3/8 inch surface casing shall be set at **a minimum depth of 800 feet in solid formation**, below usable water and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is **circulate cement to the surface**.

3. The minimum required fill of cement behind the 4-1/2 inch production casing is **cement shall circulate to surface due to cave/karst**.

III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 13-3/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.
2. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling the surface and intermediate casing shall be 3M psi. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the 9-5/8 inch casing shall be 3M psi.
3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
 - The tests shall be done by an independent service company.
 - The results of the test shall be reported to the appropriate BLM office.
 - Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
 - Testing must be done in a safe workman-like manner. Hard line connections shall be required.
 - BOPE must be tested prior to drilling into the Wolfcamp Formation by an independent service company.

IV. 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. Monitoring equipment shall consist of the following:

1. Recording pit level indicator to indicate volume gains and losses.
2. Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.
3. Flow-sensor on the flow line to warn of abnormal mud returns from the well.

Engineer on call phone: 505-706-2779

WWI 122106