District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 S. 1st Street, Artesia, NM 88210-2834
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-101
Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

[X] AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1 Operator name and Address	2 OGRID Number
Phillips Petroleum Company 4001 Penbrook Street Odessa, TX 79762	017643 3 API Number 30-0 25-34590

4 Property Code	5 Property Name	6 Well No.
24398	PRAIRIE FIRE STATE	1

7 Surface Location

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
7	2	21-S	34-E		1980	NORTH	1650	EAST	LEA

8 Proposed 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

9 Proposed Pool 1	10 Proposed Pool 2
OSUDO WEST (MORROW) #82240	OSUDO (ATOKA)

11 Work Type Code	12 Well Type Code	13 Cable/Rotary	14 Lease Type Code	15 Ground Level Elevation
N	G	R	S	3710'
16 Multiple	**17 Proposed Depth**	**18 Formation**	**19 Contractor**	**20 Spud Date**
N	13,500'	MISSISSIPPIAN	UNKNOWN	BEFORE 04/15/99

21 Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17-1/2"	13-3/8"	54.5#	660'	1050	SURFACE
12-1/4"	9-5/8"	40#	5850'	2940	SURFACE
8-3/4"	7-5/8"	33.7#	12,600'	425	5350'
6-1/2"	5"	18#	13,500'	100	12,400'

22 Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary

SEE ATTACHED

Permit Expires 1 Year From Approval Date Unless Drilling Underway

23 I hereby certify that the information given above is true and complete to the best of my knowledge and belief.	OIL CONSERVATION DIVISION	
Signature: Larry M. Sanders for M.M.S.	Approved by:	
Printed name: LARRY M. SANDERS (915) 368-1667	Title: DISTRICT I SUPERVISOR	
Title: SUPERVISOR, REGULATION/PRORATION	Approval Date:	Expiration Date:

PHILLIPS PETROLEUM COMPANY
PERMIAN PROFIT CENTER
DRILLING PROGRAM

WELL: Prairie Fire State #1 **FIELD:** Osudo West

LOCATION: 1650' FEL & 1980' FNL, Sec. 2, T-21-S, R-34-E, Lea County, NM.

TOTAL DEPTH: 13,500' RKB

SURFACE HOLE: 660' RKB; 17-1/2" Bit

A. **Mud:** Drill the surface hole with fresh water/fresh gel flocculated lime. Use paper to control seepage and mud rings and caustic to keep a 9 – 9.5 pH. Add yellow starch @ TD to stabilize hole for running casing. (See attached Mud Program for details)

B. **Potential Problems:** Drilling paper additions should be sufficient to control minor seepage losses. A couple wells in the area had difficulty running casing. If excessive torque & drag is present lower the API water loss below 30cc prior to running casing.

C. **Casing:** 13-3/8", 54.5 lb/ft, J-55, ST&C set at 660'.

Make-up Torque, ft-lbs:	
Optimum	5140
Minimum	3860
Maximum	6430

D. **Cement:** Pump 20 bbls of fresh water ahead of lead slurry.

Lead: 710 sx of Halliburton light premium plus + .25 lb/sx flocele

Slurry Weight:	12.4 lb/gal
Slurry Yield:	1.97 ft^3/sk
Water Requirement:	10.92 gals/sx

Tail: 340 sx premium plus + 2% Calcium Chloride mixed w/ fresh water

Slurry Weight:	14.8 ppg
Slurry Yield:	1.34 ft^3/sx
Water Requirement:	6.31 gals/sx

E. **Notes:**

1. Surface casing must be cemented to surface.
2. Base cement volumes on 100% excess of open hole.
3. Sandblast the bottom 2 joints of casing. Tack weld bottom 2 collars. Use thread lock compound on bottom 2 joints.
4. Run centralizers on shoe joint and every 4th joint to surface.
5. Circulate a minimum of one casing volume before cementing.
6. After bumping plug wait on cement a minimum of 6 hours prior to nippling up BOP stack, and at least 18 hours prior to drilling out the shoe.
7. Install 13-3/8" Bradenhead 3000psi
8. NU 5M BOP stack.
9. Test casing to 2500 psi for 30 minutes prior to drilling out cement.
10. RU "Low Risk" H_2S equipment (100 ppm ROE < 3000') before drilling.

INTERMEDIATE HOLE: 5850' RKB, 12- 1/4" Bit

A. **Mud:** Take a sample and verify 10 ppg saturated brine water before use (188K ppm chloride) and drill with to 5850'. Use paper sweeps to stop any seepage. Mix LCM if necessary to control circulation problems that have occurred in the Capitan Reef Section 3800'- 4000'. Add Lime and Caustic for a 10 pH. If necessary use Salt Gel Pill sweeps to clean hole. At TD add yellow starch to stabilize the hole prior to running casing. (See attached Mud Program for details)

B. **Potential Problems:** Possible troublesome gravel section from 1100' – 1300'. Severe lost circulation problems and stuck drill pipe while drilling has occurred around 4000'.

C. **Mudlogging Program:** From 3500' to casing setting depth take 2 dried sets every 10'.

D. **Casing:**

5850' to Surface – 9-5/8", 40 lb/ft L-80 LT&C

Make-up Torque, ft-lbs:	
Optimum	7270
Minimum	5450
Maximum	9090

E. **Cement:** Set DV tool above lost circulation problems. Circulate bottoms up before pumping cement. Pump 20 bbls of fresh water ahead of lead slurry.

Lead: 2527 sx of Interfill C mixed w/fresh water

Slurry Weight:	11.7 ppg
Slurry Yield:	2.60 ft^3/sx
Water Requirement	6.29 gals/sx

Tail: 402 sx of Premium Plus mixed w/ fresh water

Slurry Weight:	14.80 ppg
Slurry Yield:	1.32 ft^3/sx
Water Requirement:	6.29 gals/sx

F. **Notes:**

1. Circulate cement to surface.
2. Base cement volumes on 200% excess over fluid caliper log.
3. Sandblast the bottom 3 joints of casing.
4. Install one centralizer on shoe joint and every 4th joint to 200' inside 13-3/8".
5. Tack weld collars and use thread lock compound on bottom two joints when run.
6. Circulate a minimum of one casing volume before cementing.
7. Displace the plug with 10# Brine.
8. Bump plug w/1000 # over lifting pressure.
9. After bumping plug wait on cement a minimum of 6 hours prior to nippling up BOP stack, and at least 18 hours prior to drilling out shoe.
10. Install 9-5/8" casing spool 5000 psi.
11. NU 5M BOP stack.
12. Test casing to 4500 psi for 30 minutes prior to drill out cement.
13. RU "Low Risk" H_2S equipment (100 ppm ROE < 3000') before drilling.

<u>INTERMEDIATE/PRODUCTION HOLE:</u> 12600' RKB, 8- 3/4" Bit

A. **Formation Integrity Test:** WOC 18 hours. Drill-out 9-5/8" casing shoe and 10' of new hole. Perform formation limit test. Surface test pressure 860 psig.

B. **Mud:** Drill out with fresh water. Use paper sweeps to stop any seepage. Mix LCM if necessary (acid soluble once in producing formations). Lost circulation has been encountered in the top of

the Bone Spring Formation from 8000' – 9000' (tight spot in the State R offset well @8472'). Start mudding up to 9 ppg at 10200' (100'prior to the Wolf Camp). Prior to drilling through the Atoka formation at 12,175' increase the mud weight to 10.9 ppg, lower the API water loss below 6cc, and raise the viscosity as described in the mud program. Increase mud weight as necessary to maintain control of the well. If a severe lost circulation problem occurs that can not be resolved stop drilling and contact PPCo drilling department before setting 7- 5/8" csg. At TD add yellow starch to stabilize the hole prior to running casing. (See attached Mud Program for details)

C. **Potential Problems:** Severe lost circulation problems and stuck drill pipe has occurred in the Bones Springs while drilling through the Atoka formation.

D. **Casing:**

12600' to Surface – 7-5/8", 33.7 lb/ft L-80 LT&C

Make-up Torque, ft-lbs:	
Optimum	6640
Minimum	4980
Maximum	8300

E. **Cement:** Pump 20 bbls of fresh water ahead of lead slurry.

Lead: 320 sx of Interfill H mixed w/ fresh water

Slurry Weight:	11.90 ppg
Slurry Yield:	2.46 ft^3/sx
Water Requirement	14.28 gals/sx

Tail: 105 sx of Modified Super H + 5 1b/sk Gilsonite + 1 1b/sk Salt +.5% HALAD-344 +0.4 CFR-3 +0.2 % HR-7 mixed w/fresh water.

Slurry Weight:	13.00 ppg
Slurry Yield:	1.67 ft^3/sx
Water Requirement:	8.25 gals/sx

F. **Notes:**

1. Circulate cement to surface.
2. Base cement volumes on 50% excess over caliper log.
3. Sandblast the bottom 3 joints of casing.
4. Install one centralizer on shoe joint and every 4th joint to 200' inside 9-5/8".
5. Tack weld collars and Use thread lock compound on bottom two joints when run.
6. Circulate a minimum of one casing volume before cementing.
7. Displace the plug with 10# Brine.
8. Bump plug w/1000 # over lifting pressure.
9. After bumping plug wait on cement a minimum of 6 hours prior to nippling up BOP stack, and at least 18 hours prior to drilling out shoe.
10. Install 7-5/8" tubing spool.
11. NU 5M BOP stack.
12. Test casing to 5500 psi for 30 minutes prior to drill out cement.
13. RU "Low Risk" H_2S equipment (100 ppm ROE < 3000') before drilling.

PRODUCTION HOLE: 13500' RKB, 6- 1/2" Bit

A. **Formation Integrity Test:** WOC 18 hours. Drill-out 7-5/8" casing shoe and 10' of new hole. Perform formation limit test. Surface test pressure 100 psi.

B. **Mud:** Maintain previous mud weight and adjust as necessary. Use paper sweeps to stop any seepage. Mix LCM if necessary (acid soluble). (See attached Mud Program for details)

C. **Potential Problems:** No problems expected if the Atoka and the Bones springs have been isolated.

D. **Casing:** DO NOT OVERLAP THE ATOKA PAYZONE.

13,500' to 12,400' - 5", 18 lb/ft L-80 LT&C

Make-up Torque, ft-lbs:	
Optimum	3930
Minimum	2950
Maximum	4910

E. **Cement:** Pump 20 bbls of fresh water ahead of lead slurry.

100 sx of Modified Super H .5% HALAD-344 +0.4 CFR-3 +0.2 % HR-7 mixed w/fresh water.

Slurry Weight:	13.00 ppg
Slurry Yield:	1.64 ft^3/sx
Water Requirement	8.62 gals/sx

F. **Notes:**

1. Circulate cement above top of liner.
2. Base cement volumes on 30% excess over caliper log.
3. Sandblast the bottom 3 joints of casing.
4. Install one centralizer on shoe joint and every 4th joint to bottom of 7-5/8" casing.
5. Tack weld collars and Use thread lock compound on bottom two joints when run.
6. Circulate a minimum of one casing volume before cementing.
7. Displace the plug with 10# Brine.
8. Bump plug w/1000 # over lifting pressure.
9. Wellhead: Install 7-5/8" weld on btm X 2-3/8 " tbg- 5K or 10K psi top wellhead (will be determined by .