



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Box 1327, Roswell, New Mexico 88201

IN REPLY  
REFER TO:  
NM-56264  
3162.41 (065)

SEP 23 1987

Read and Stevens, Inc.  
P.O. Box 1518  
Roswell, NM 88201

Dear Sir:

Your Application for Permit to Drill the North Lea Federal No. 3 well in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ , sec. 10, T. 20 S., R. 34 E., Lea County, New Mexico, lease NM-56264, to a depth of 14,000 feet to test the Morrow formation in the oil-potash area, is hereby approved as amended by stipulations attached to the application.

One copy of the application is returned herewith. Please notify the Bureau of Land Management Office checked on the attached special stipulation, in sufficient time for a representative to witness all cementing operations.

Approval of this application 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.

Sincerely,

Orig. Sgd. David L. Mari

FOR Francis R. Cherry, Jr.  
District Manager

1 Enclosure

cc:  
NMOC - Hobbs - 2

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

## 1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

## 5. LEASE DESIGNATION AND SERIAL NO.

NM-56264

## 6. IF INDIAN, ALLOTTEE OR TRIBE NAME

## 7. UNIT AGREEMENT NAME

## 8. FARM OR LEASE NAME

North Lea Federal

## 9. WELL NO.

3

## 10. FIELD AND POOL, OR WILDCAT

North Lea Penn.

11. SEC., T., R., M., OR BLK.  
AND SURVEY OR AREA

Sec. 10-T20S-R34E

## 12. COUNTY OR PARISH

Lea

## 13. STATE

New Mexico

## b. TYPE OF WELL

OIL  
WELL ☐GAS  
WELL ☒

OTHER

SINGLE  
ZONE ☐MULTIPLE  
ZONE ☐

## 2. NAME OF OPERATOR

Read &amp; Stevens, Inc.

## 3. ADDRESS OF OPERATOR

P. O. Box 1518 Roswell, New Mexico 88201

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

At surface

1650' FNL &amp; 990' FEL

At proposed prod. zone

same

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

33 miles southwest of Hobb, NM

## 15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.

(Also to nearest drig. unit line, if any)

990'

## 16. NO. OF ACRES IN LEASE

480

## 17. NO. OF ACRES ASSIGNED

TO THIS WELL  
160

## 18. DISTANCE FROM PROPOSED LOCATION\*

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

1900' Prod.

1350' Abd.

## 19. PROPOSED DEPTH

14,000'

## 20. ROTARY OR CABLE TOOLS

Rotary

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

3643 GL

## 22. APPROX. DATE WORK WILL START\*

Sept. 25, 1987

## 23.

## PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	54.5#	1600'	1065 sx "HL" + 200 sx "H" Circ.
12 1/4"	8 5/8"	32.0#	2200'	D.V. tool set @ 3800' 1st stage:
11"	8 5/8"	32.0#	5200'	200 sx "HL", 300sx "H" Prem.+

2nd stage: 1350 sx "HL", 200 sx  
"H" Prem. +, circulate.  
500 sx 50/50 POZ

Mud Program: 7 7/8" 5 1/2" 17 & 20# 14,000'  
0' - 1,600' Fresh water, gel & Lime 8.7 - 9.0 PPG, Vis 34 - 36.  
1,600' - 5,200' Brine water 10.0 - 10.3 PPG, Vis 28 - 29, No WL control.  
5,200' - 10,900' Cut brine, 8.7 - 9.2 PPG, Vis 28 - 29, No WL control.  
10,900' - 12,000' Brine water 9.8 - 10.2, Vis 28 - 34, No WL control.  
12,000' - 14,000' Brine, polymer, 10 - 10.6 ppg, Vis 32 - 50, WL 3 - 10 cc.

BOP Program: At 5200' will install the 5000# wp Hydril annular, double ram 5000# BOP  
and rotating head. The BOP equipment will be tested at this time and daily.

Gas is not dedicated.

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

## 24.

Agent for:

SIGNED

TITLE

Read &amp; Stevens, Inc.

DATE

September 17, 1987

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

All distances must be from the outer boundaries of the Section.

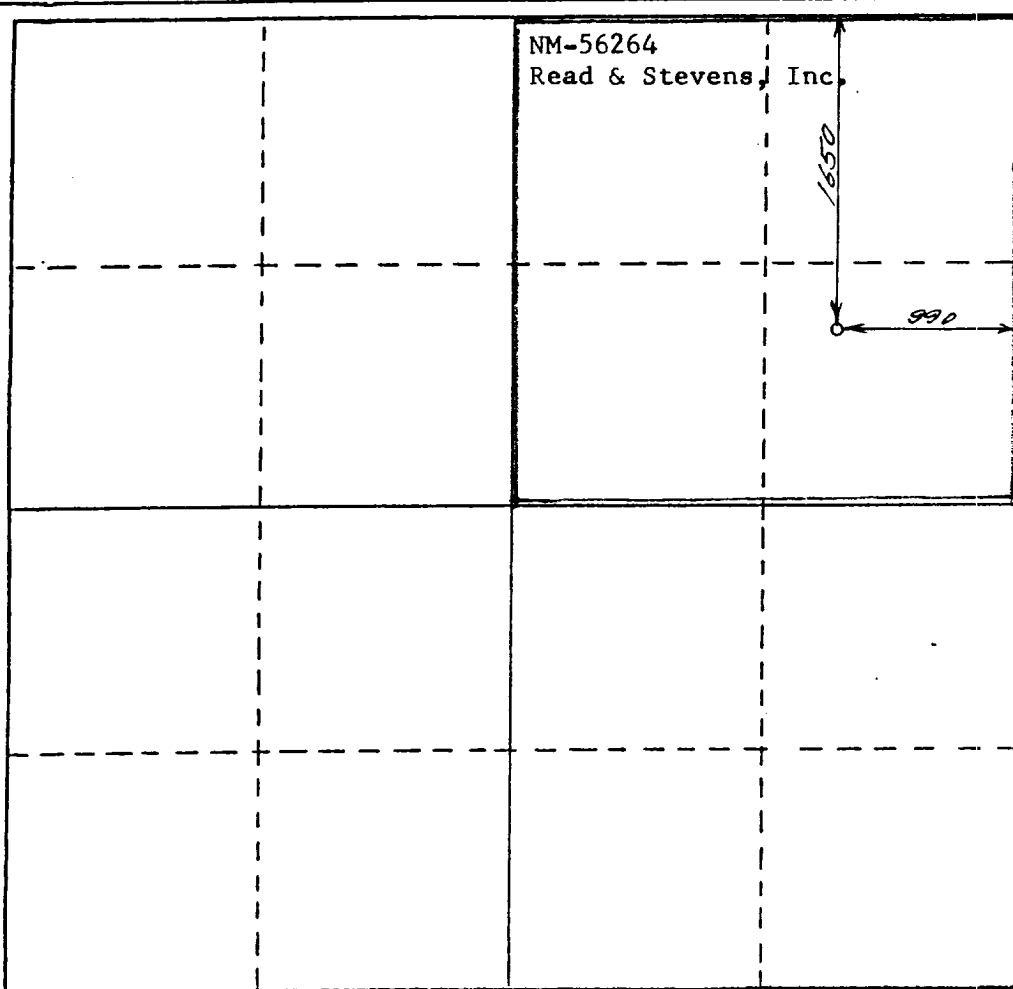
Operator <b>Read &amp; Stevens, Inc.</b>			Lease <b>North Lea Federal</b>			Well No. <b>3</b>		
Unit Letter <b>H</b>	Section <b>10</b>	Township <b>20 South</b>	Range <b>34 East</b>	County <b>Lea</b>				
Actual Footage Location of Well: <b>1650</b> feet from the <b>North</b> line and <b>990</b> feet from the <b>East</b> line								
Ground Level Elev. <b>3643</b>		Producing Formation <b>Morrow</b>		Pool <b>North Lea Penn.</b>			Dedicated Acreage: <b>160</b> Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Division.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name  
**George R. Smith**

Position  
**Agent for:**

Company  
**Read & Stevens, Inc.**

Date  
**September 17, 1987**

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 knowledge and belief.

**September 1987**

Date Surveyed  
**P. R. Patton**

Registered Land Surveyor  
**814**

Certificate No. **1211**

## APPLICATION FOR DRILLING

READ & STEVENS, INC.  
North Lea Federal, Well No. 3  
1650' FNL & 990' FEL, Sec. 10-T20S-R34E  
Lea County, New Mexico  
Lease No.: NM-56264  
(Development Well)

In conjunction with Form 9-331C, Application for Permit to Drill subject well, Read & Stevens, Inc. submits the following items of pertinent information in accordance with BLM requirements:

1. The geologic surface formation is recent Permian with quaternary alluvium and other surficial deposits.
2. The estimated tops of geologic markers are as follows:

Rustler	1550'	Wolfcamp	11,000'
Top of Salt	1770'	Strawn	12,110'
Base of Salt	3150'	Morrow	12,990'
Yates	3395'	Mississippi	13,600'
Queen	3670'	T.D.	14,000'
Bone Springs	8250'		

3. The estimated depth at which anticipated water, oil or gas formations are expected to be encountered:

Water: Random fresh water sands at approximately 100' or less in alluvium and at about 1000' in the Triassic.

Gas: Morrow Clastic at approximately 13,000'.

Oil: Bone Springs at approximately 8250'.

4. Proposed Casing Program: See Form 9-331C.
5. Pressure Control Equipment: See Form 9-331C and Exhibit "D".
6. Mud Program: See Form 9-331C.
7. Auxiliary Equipment: Blowout Preventer, gas detector, kelly cock, pit level monitor, flow sensors and stabbing valve.
8. Testing, Logging and Coring Program:

Logging:	1,600' - 5,200'	G/R CNL-FDC, DLL, MLL
	5,200' - 14,000'	" " " " "

Drill Stem Tests: Tests in the Bone Springs and Delaware.

Coring: None.

9. There is a possibility that abnormally high pressure may be encountered below 9500'. In that event, the proposed mud program will be modified to increase the mud weight to 9.8 - 10.2 ppg.
10. Anticipated starting date: September 25, 1987.  
Anticipated completion of drilling operations: Approximately 60 days.

## Blowout Preventer Hookup

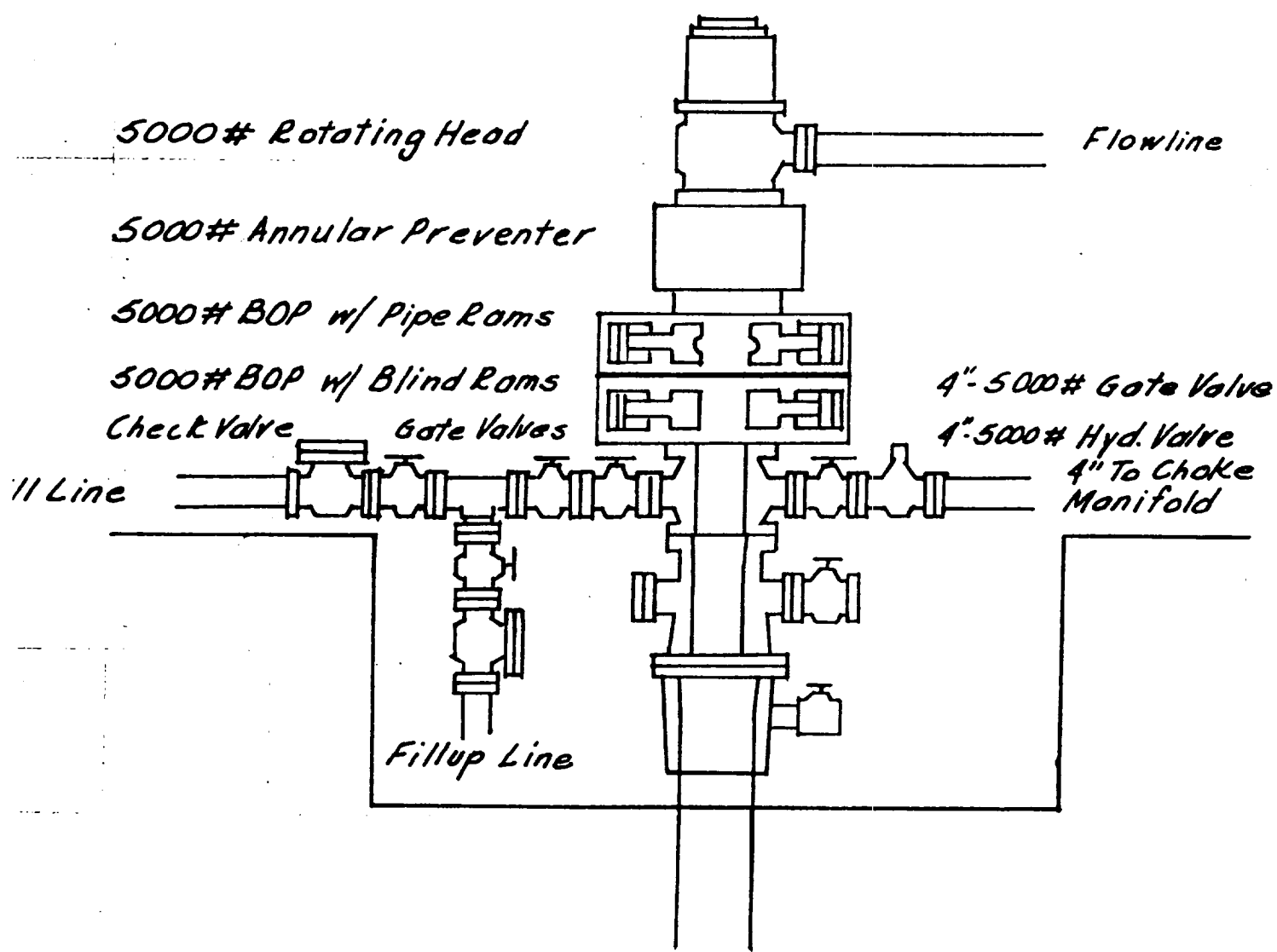


EXHIBIT "E"  
Read & Stevens, Inc.  
North Lea Federal, Well No. 3  
BOP Specifications

RECEIVED  
SEP 28 1987  
OCD  
HCBBS OFFICE

# WRS COMPLETION REPORT

REISSUES SEC 10 TWP 20S RGE 34E  
PI# 30-T-0005 05/15/89 30-025-30066-0000 PAGE 1

NMEX LEA \* 1650FNL 990FEL SEC SE NE  
STATE COUNTY FOOTAGE SPOT  
READ & STEVENS INC D DG  
OPERATOR WELL CLASS INT FIN

3 NORTH LEA FEDERAL  
WELL NO LEASE NAME  
3663KB 3643GR LEA  
OPER ELEV FIELD/POOL AREA

API 30-025-30066-0000  
LEASE TYPE NO PERMIT OR WELL ID. NO

10/19/1987 01/22/1988 ROTARY GAS  
SPUD DATE COMP. DATE TYPE TOOL STATUS  
14000 PNNSYLVN WILLBROS DRLG 12 RIG SUB 19  
PROJ. DEPTH PROJ. FORM CONTRACTOR  
DTD 13730 PB 13690 FM/TD MORROW  
DRILLERS T.D. LOG T.D. PLUG BACK TO OLD T.D. FORM T.D.

## LOCATION DESCRIPTION

11 MI NE HALFWAY, NM

## WELL IDENTIFICATION/CHANGES

PROJ FM CHGD FROM MORROW

## CASING/LINER DATA

CSG 13 3/8 @ 1595 W/ 1265 SACKS  
CSG 8 5/8 @ 5195 W/ 1475 SACKS  
CSG 5 1/2 @ 13730 W/ 3445 SACKS

## TUBING DATA

TBG 2 3/8 AT 13463

## INITIAL POTENTIAL

IPF 114BOPD 2363 MCFD 17/64CK 24HRS  
MORROW PERF W/ 4/FT 13452-13462  
PERF 13452-13462  
TP 4874  
GTY 57.2  
FIELD /RESERVOIR  
/PENNSYLVANIAN  
POT BASED ON 4 HR TEST, FLWD 19 BO + 2500 MCFG  
SHUT-IN GAS WELL  
NATURAL

CONTINUED IC# 300257031487

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Petroleum  
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Petroleum Information

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PI-WRS-GET  
Form No187

REISSUES  
PI# 30-T-0005 05/15/89 SEC 10 TWP 20S RGE 34E  
30-025-30066-0000 PAGE 2

READ & STEVENS INC  
3 NORTH LEA FEDERAL D DG

TYPE	FORMATION	LTH	TOP	DEPTH/SUB	BSE	DEPTH/SUB
LOG	TANSILL		3192	471		
LOG	YATES		3406	257		
LOG	WOLFCAMP		10931	-7268		
LOG	STRAWN		12186	-8523		
LOG	ATOKA		12634	-8971		
LOG	MORROW		12925	-9262		

SUBSEA MEASUREMENTS FROM KB

FORMATION TEST DATA

DST 1 3720- 3850 DELAWARE  
REC 2474.0 FT SULW 2400.0 CC SULW  
INIT OP 20M IFP 876 FFP 1297  
FINAL OP 30M IFP 1297 FFP 1297  
ISIP 1297 1H30M FSIP 1297 1H30M IHP 1971 FHP 1971  
WS138000 PPM CL

DST 2 5891- 5937 DELAWARE  
REC 1770.0 FT WTR 2400.0 CC SWTR  
INIT OP 20M IFP 14 FFP 367  
FINAL OP 2H IFP 355 FFP 318  
ISIP 2395 1H15M FSIP 2395 3H IHP 3101 FHP 3101  
DP CHL 129000 PPM; SPL CHL 140000 PPM

LOGS AND SURVEYS /INTERVAL,TYPE/

LOGS	GR	CNL	LDT
LOGS	DLL	MSFL	DIPM

LOST CIRCULATION /DEPTH,FORMATION/

3978

DRILLING PROGRESS DETAILS

	READ & STEVENS INC
	BOX 1518
	ROSWELL, NM 88202
	505-622-3770
09/29	LOC/1987/
10/20	DRLG 1120
10/27	DRLG 3850

CONTINUED



REISSUES SEC 10 TWP 20S RGE 34E  
PI# 30-T-0005 05/15/89 30-025-30066-0000 PAGE 3

READ & STEVENS INC D DG  
3 NORTH LEA FEDERAL

DRILLING PROGRESS DETAILS

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11/03 DRLG 5636  
11/10 DRLG 8336  
11/17 DRLG 10437  
12/01 DRLG 12650  
12/15 13730 TD, WOCT  
12/15 SULPHUR WTR FLOW WHILE LOGGING 5195  
12/29 13730 TD, SI  
01/19 13730 TD, SI  
02/05 13730 TD, SI  
02/18 13730 TD, SI  
TD REACHED 12/12/87 RIG REL 12/12/87  
01/26 13730 TD  
COMP 1/22/88, IPF 114 BO, 2363 MCFGPD,  
17/64 CHK, FTP 4874  
PROD ZONE - PENNSYLVANIAN 13452-13462  
SHUT-IN GAS WELL  
NO CORES, TWO DSTS RPTD  
REISSUED TO CORRECT FM @ TD, COMP DATE,  
IP & NO CORES STMT & ADD PBD, TBG, LOG  
TOPS & LOGS RUN  
REPLACEMENT FOR CT ISSUED 4/11/88  
05/09 REISSUED TO ADD DSTS & DELETE CORE  
REPLACEMENT FOR CT ISSUED 1/30/89