

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 ☐

b. TYPE OF WELL

OIL
WELL ☒GAS
WELL ☐

OTHER

SINGLE
ZONE ☒MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

CONOCO INC.

3. ADDRESS OF OPERATOR

P. O. Box 460, Hobbs, N.M. 88240

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

At surface

1650' FSL & 890' FEL

At proposed prod. zone

Same

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

U. S. GEOLOGICAL SURVEY
HOBBS, NEW MEXICO

15. DISTANCE FROM PROPOSED*

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

16. NO. OF ACRES IN LEASE

17. NO. OF ACRES ASSIGNED
TO THIS WELL18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

19. PROPOSED DEPTH

9470'

20. ROTARY OR CABLE TOOLS

Rotary

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

22. APPROX. DATE WORK WILL START*

December 1, 1980

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 #	1450'	1131 SX. - Circ.
12 1/4"	9 5/8"	36 #	3200'	962 SX. - Circ.
8 3/4"	7"	26 #	9470'	1154 SX.

It is proposed to drill a straight hole to a TD of 9470' &
complete it as a McKee oil well.

See attachments for 10-point well plan & 13-point surface use plan.

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.

SIGNED

R. E. Bingham

TITLE

Administrative Supervisor

DATE

9-22-80

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY (Orig. Sgd.) PETER W. CHESTER

TITLE ACTING DISTRICT ENGINEER

DATE OCT 8 1980

CONDITIONS OF APPROVAL, IF ANY:

USGS-6
NMFU-4
FILE

Release folder - 2

*See Instructions On Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

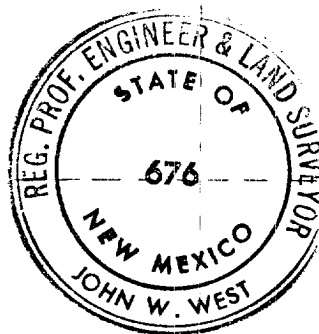
Operator Conoco Inc.			Lease Warren Unit		Well No. 86
Unit Letter I	Section 29	Township 20 south	Range 38 east	County Lea	
Actual Footage Location of Well: 1650 feet from the south line and 890 feet from the east line					
Ground Level Elev. 3527.1	Producing Formation McKee		Pool Warren McKee	Dedicated Acreage: 40 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. 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 Commission.



CERTIFICATION

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

Name
D. E. Bingham
Position
Administrative Supervisor
Company
Conoco Inc.

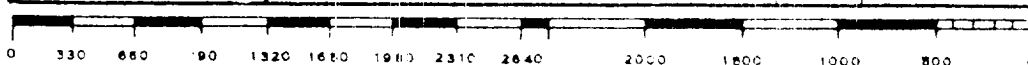
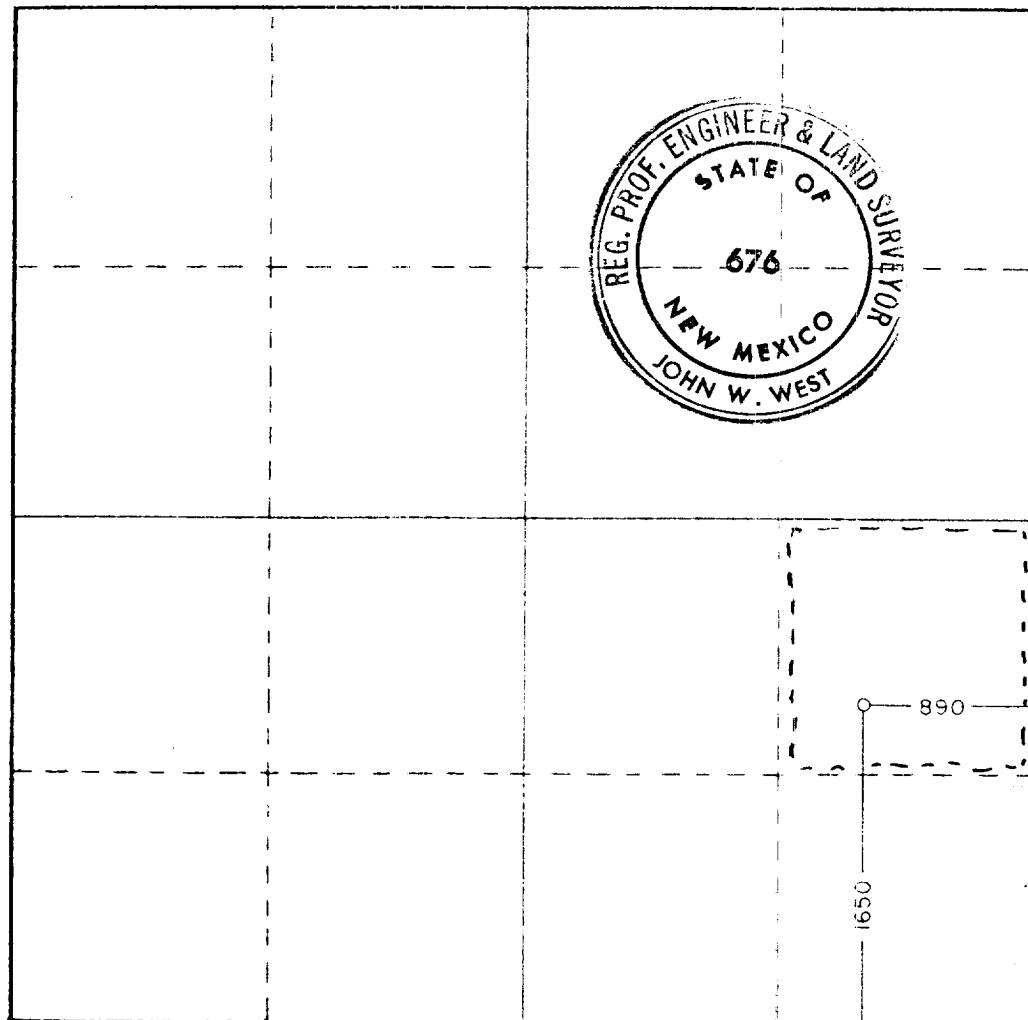
Date
9/22/80

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.

Date Surveyed
9-16-80

Registered Professional Engineer and/or Land Surveyor

John W. West
Certificate No. **JOHN W. WEST 676**
PATRICK A. ROMERO 6663
Ronald J. Eidson 3239



ATTACHMENT TO FORM 9-331 C
APPLICATION FOR PERMIT TO DRILL

Conoco Inc.
Warren Unit No. 86
Sec. 29, T-20S, R-38E
Lea County, New Mexico

1. The geologic name of the surface formation is Pleistocene Sand.
2. The estimated tops of important geologic markers are shown on the attached Proposed Well Plan.
3. The estimated depths at which anticipated water, oil, gas or other mineral-bearing formations to be encountered are shown on attached Proposed Well Plan.
4. The proposed casing program is as follows:

0" - 1450'	13 3/8"	54.5#	K-55,	STC
0" - 3200'	9 5/8"	36#	K-55,	STC
0" - 9470'	7"	26#	K-55 & N-80,	LTC & BTRC
5. A drawing of an API Series 900 Blowout Preventer Specification is attached. Pipe rams and blinds will be checked to 1,000 PSI for 30 minutes when BOP is installed. BOP will be checked when casing string is set and operated daily for checks.
6. The proposed mud program is as follows:

0' - 1450'	8.5 - 9.0 ppg	spud mud
1450' - 9470'	9.0 - 10.0 ppg	salt gel
7. The auxiliary equipment to be used is:
 - (1) kelly cocks
 - (2) floats at the bit
8. It is proposed to run GR CAL CNL FDC PDC logs at selected intervals.
9. No abnormal pressures or temperatures are expected to be encountered in this well.
10. The anticipated starting date is December 1, 1980, with a duration of approximately 45 days.

PROPOSED WELL PLAN OUTLINE

WELL NAME: WARREN UNIT MCKEE #86

COUNTY: LEA

LOCATION: 1980' ESL & 990' FEL
Sec. 29, T-20S, R-38E

STATE: NM

EST. KB: 3540'

EST. GL: 3525'

DEPTH	FORMATION TOPS & TYPE	DRILLING PROBLEMS	TYPE OF FORMATION EVALUATION	HOLE SIZE (IN)	CASING		(PPG) FRACTURE GRADIENT	(FPG) FORMATION PRESSURE GRADIENT	MUD	
					SIZE (IN)	DEPTH (FT)			(PPG) WEIGHT	TYP.
	PLEISTOCENE WATER SS	90'-170'	GEOLOGRAPH DEVIATION 0'-TD							
-1000-	RUSTLER ANHY. SALADO SALT	1410' 1500'		17-1/2"	54.5# K-55 STC 13-3/8"	1450'	11.0- 12.0	8.3- 8.5	8.5- 9.0	SPTD
-2000-	Possible water flow 2400'-3000'									
-3000-	BASE SALADO	2560'		12-1/4"	36# K-55 STC 9-5/8"	3200'	12.0- 13.0	less than 8.5	9.0- 10.0	SALT GEL
-4000-	PENROSE SS.	3680'								
-5000-	GLORIETA SS.	5430'								
-6000-	BLINEBRY MKR.	5900'								
-7000-	TUBB FM. SS. DRINKARD DOLO. ABO DOLO.	6400' 6690' 6970'								
-8000-	DEVONIAN DOLO.	7990'			26# K-55 BTRC. 26# K-55 LTC 26# N-80 LTC	- 2000' - 6300' - 1170'				
-9000-	MONTOKA DOLO. SIMPSON SS. MCKEE SS.	8580' 8760' 9040'	DLL-CR FDC-CN-L-G-R-CAL 2" & 5" Scales 6400'-9470' Caliper TD-3200'							
-10000-	CONNELL SS. ELLENBURGER DOLO. TD - 9470'	9380' 9440'	PDC 6400'-9470'	8-3/4"	7"	9470'	14.9- 15.1	less than 8.5	9.0- 10.0	SALT GEL

WELL NAME WARREN UNIT MCKEE #86 FIELD NMFU DATE 8/8/80
 ELEVATION EST. GRD 3525' KB 3540' PROPOSED T.D. 9470'
 LOCATION (SURFACE) 1980' FSL & 990' FEL OF SECTION 29 T-20S R- 38E
 COUNTY LEA STATE NM SPACING

GEOLOGICAL ESTIMATES

ZONE	TOP	CONTENT (O=Oil, G=Gas, W=Water)
WATER SS.	90'-170'	Fresh water
RUSTLER ANHY.	1410'	-
SALADO SALT	1500'	-
BASE SALADO	2560'	- McKEE SS 9040' O,W,G
PENROSE SS.	3680'	- CONNELL SS 9380' O,W,G
GLORIETA SS.	5430'	ELLENBURGER SS. 9440' O,W,G
BLINEBRY MKR.	5900'	O,W,G
TUBB FM. SS	6400'	O,W,G
DRINKARD DOLO.	6690'	O,W,G
ABO DOLO.	6970'	O,W,G
DEVONIAN DOLO.	7990'	O,W,G
MONTOYA DOLO.	8580'	O,W,G
SIMPSON SS.	8760'	O,W,G

WELL SURVEYS - (List types by code numbers as follows: Directional and/or Deviation (1); Deflection (2); Caliper (3); Temperature (4); Electrical (5); Radioactive (6); Geolograph (7) Photoclinometer (8); Mudlogging (9); Other (10) and name of that type)

DEPTH POINTS	TYPE	HOLE SIZE	REMARKS
0'-9470'	(1) Deviation	17-1/2, 12-1/4, 8-3/4"	1 every 250' to 2590' & 1 every 500' thereafter
0'-9470'	(7) Geolograph	17-1/2, 12-1/4, 8-3/4"	
6400'-9470'	(5) DLL-GR	8-3/4"	2" & 5" Scales
6400'-9470'	(6) FDC-CNL-GR-CAL	8-3/4"	2" & 5" Scales
6400'-9470'	(6) PDC (GR-COLLAR)	7" casing	Depth Control
0'-9470'	(4) Temperature	7" casing	Determine top of cement

CONOCO TO FURNISH WATER, CONTRACTOR TO FURNISH FUEL.

PROPOSED WELL PLAN

WELL NAME	<u>WARREN UNIT MCKEE NO. 86</u>		FIELD	<u>NMEU</u>	
<u>ATTACHMENT</u>	<u>NO.</u>	<u>REQUIRED</u>	<u>NOT REQUIRED</u>		
CASING CENTRALIZERS, SCRATCHERS	_____	<u>X</u>	_____		
CEMENTING	_____	<u>X</u>	_____		
MUD PROGRAM	_____	<u>X</u>	_____		
WELL PLAN OUTLINE	_____	<u>X</u>	_____		
PORE PRESSURE - FRAC GRADIENT	_____	_____	_____		
PROJECTED PROGRESS	_____	_____	_____		
CROSS SECTION OR WELL COURSE	_____	_____	_____		
HYDRAULICS PROGRAM	_____	_____	_____		
BIT PROGRAM	_____	_____	_____		
VENDER USAGE LIST	_____	_____	_____		

DRILLING AND COMPLETION PROCEDURE

1. 0'-1450' - Drill a 17-1/2" hole. Run and cement 13-3/8" OD casing (see casing and cement programs). WOC 18 hours. Pressure test casing to 600 psi for 30 minutes.
2. 1450'-3200' - Drill a 12-1/4" hole. Drill out shoe and pressure test formation to 300 psi. Run and cement 9-5/8" OD casing. (see cement and casing programs). WOC 18 hours. Pressure test casing to 600 psi for 30 minutes.
3. 3200'-9470' - Drill an 8-3/4" hole. Drill out shoe and pressure test formation to 500 psi. Run open hole logs, run and cement casing. (see casing and cement programs)
4. Detailed completion procedure to be prepared after open hole logs are analyzed. Anticipate a McKee producing well completion.

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TYPE OF STRINGS & INTERVAL (FT)		OD	DRIPT ID	WT PER FT	GRADE	THREAD	AMT	WT. IN AIR, WT. IN MUD 1000 LBS 1000 LBS	REMARKS
FROM-TO									
(S) 0'-1450'	13-3/8"	12.459"	54.5#	K-55	STC	1450'	79		
(I) 0'-3200'	9-5/8"	8.765"	36#	K-55	STC	3200'	115.2		D.V. Tool @ 1430'
(P) 0'-9470'	7"	6.151"	26#	K-55	BTRC.	2000'	52		Sandblast botto 600'
	7"	6.151"	26#	K-55	LTC	6300'	163.8		D.V. Tool @ 6000'
	7"	6.151"	26#	N-80	LTC	1170'	30.4		

TYPE OF STRING	CENTRALIZERS	SCRATCHER	OTHER ACCESSORY EQUIPMENT		REMARKS
	INTERVAL NO. FROM-TO	NO. INTERVAL NO. FROM-TO	(SUCH AS DEGASSERS, MUD, CENTRIFUGE FLOAT COLLARS, ETC. - SPECIFY)		
Surface	(15) 0'-1450'	None	Guide shoe and float collar		Centralizers - 100' spacing
Intermediate	(18) 1400'-3200'	None	Float shoe, float collar, & D.V. tool @ 1430' w/2 metal petal baskets below it.		Centralizers - 100' spacing
Production	(2) 3100'-3200'	(15) 9000'-9225'	Float shoe, float collar, D.V. tool		Centralizers - 40' spacing
	(25) 8470'-9470'		@ 6000' w/2 metal petal baskets below it.		Scratchers - 15' spacing

MUD PROGRAM

<u>DEPTH INTERVAL</u> <u>FROM-TO</u>	<u>WEIGHT</u> <u>LBS/CAL</u>	<u>TYPE</u>	<u>OIL %</u>	<u>PH</u>	<u>WATER LOSS</u> <u>(cc)</u>	<u>VIS. (sec.)</u>	<u>YIELD</u> <u>POINT</u>	<u>THINNING</u> <u>AGENTS</u>	<u>WATER LOSS</u> <u>AGENTS</u>
(S) 0'-1450	8.5-9.0	SPUD							As needed
(I) 1450'-3200'	9.0-10.0	Salt gel							As needed
(P) 3200'-9000'	9.0-10.0	Salt gel							As needed
(P) *9000'-9470'	9.0-10.0	Salt gel			10-15	34-36			As needed

REMARKS

1. Below 1450', drill w/saturated brine to keep hole enlargement to a minimum.
2. Add gelling agents as required to carry cuttings.
3. Keep pressure surges to a minimum below 1450'.
4. *Begin reducing water loss and increasing viscosity at 9000' to achieve above properties at T.D.

CEMENT

TYPE OF STRING INTERVAL (FT) FROM-TO TYPE MIX	GEL%	SALT%	CaCl ₂	SLURRY WEIGHT LB./GAL	SLURRY YIELD CF/SKX	TOTAL AMT. REQUIRED SKX/CF	FILL UP	BHT	SIZE	REMARKS
(S) 0'-1450'										
Class 'C'	4%	-	2%	13.05	1.88	931/1750	Circ.	75°	17-1/2"	100% excess
Class 'C'	-	-	2%	14.80	1.32	200/264				
(I) 0'-3200'										
Around shoe										
Class 'C' Light	-	18%	-	13.20	1.92	440/845	1430'	85°	12-1/4"	100% excess
Class 'C'	-	-	2%	14.80	1.32	200/264				
Thru D.V. Tool @ 1430'										
Class 'C' Light	-	-	-	12.70	1.84	172/316	Circ.	75°	12-1/4"	20% excess
Class 'C'	-	-	2%	14.80	1.32	150/198				
(P) 0'-9470'										
Around shoe										
Class 'C' Light	-	-	-	12.70	1.84	424/780	6000'	120°	8-3/4"	100% excess
Class 'C'	-	3#/sx.	2%	14.80	1.32	200/264				
Thru D.V. Tool @ 6000'										
Class 'C' Light	-	-	-	12.70	1.84	330/607	3100'	95°	8-3/4"	100% excess
Class 'C'	-	3#/sx.	2%	14.80	1.32	200/264				

NOTE:

1. Add 1/4#/sack Floccle to cement if necessary for lost circulation.
2. Reciprocate production casing while cementing.
3. Precede cement with 500 gallons mud flush.
4. Re-calculate cement volumes for production casing after open hole caliper is run.
5. Lab test liner and production casing cement slurries prior to cementing.
6. Utilize top and bottom plugs. Pump top plug with IFW.
7. Condition mud to have low plastic viscosity and yield strength.

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