

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
Continental Oil Company

3. ADDRESS OF OPERATOR
PO Box 460 - 5/10000 7777 88240

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
At surface
1780 75L & 1780 F&L
At proposed prod. zone
same

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

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

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
5552 6.2

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT

5. LEASE DESIGNATION AND SERIAL NO.

777 055 7686
6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

777 72

8. FARM OR LEASE NAME

SEMA Penn

9. WELL NO.

97

10. FIELD AND POOL, OR WILDCAT

Frankford

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

Sec 23 T-20S R-37E

12. COUNTY OR PARISH

Sec

13. STATE

777

17. NO. OF ACRES ASSIGNED TO THIS WELL

80

20. ROTARY OR CABLE TOOLS

22. APPROX. DATE WORK WILL START*

11-23-78

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.

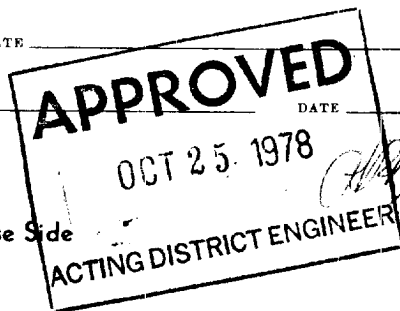
24. SIGNED *W. J. Butterfield* TITLE *Administrative Engineer* DATE *10-23-78*
(This space for Federal or State office use)

PERMIT NO. APPROVAL DATE

APPROVED BY TITLE

CONDITIONS OF APPROVAL, IF ANY:
4565 4
777 4
9111

*See Instructions On Reverse Side



RECOMMENDED PROCEDURE SEMA PENN # 97

- 1.) MOVE IN RIG. Kill well w/ TFW. POOH w/ 2 7/8" tubing, Redn G-150 submersible pump & 1 1/4" injection string.
- 2.) RTH w/ 2 7/8" tubing & cement retainer to $\pm$ 7650'. Rig up cementing service. Establish injectivity rate. Squeeze Cass Penn perfs @ 7692-98' w/ 100 sxs class "C" cement. Obtain squeeze pressure. Pull out of retainer. Spot 25' cement cap on retainer. Reverse circulate tubing clean. POOH w/ 2 7/8" tubing to $\pm$ 6860'.
- 3.) Spot 150 gals. 15% NE-HCL Acid from $\pm$ 6860' to $\pm$ 6720'. POOH w/ 2 7/8" tubing.
- 4.) Rig up Perforating Service. RTH w/ 4" hollow carrier selective fire casing gun, 90° phase, 4 JSRF. Perforate Drinkard formation @ 6777', 6781', 6832', & 6836' (16 holes). Perforate from Top to bottom of interval. (Casing collars per Schlumberger CBL dated 2-7-77: 6743+', 6787-', 6833-', 6876').
- 5.) RTH w/ 2 7/8" tubing, RTS plu & RBP. Set RBP @ $\pm$ 6850'. Set RTS plu @ $\pm$ 6810'. Acidize Drinkard perfs @ 6832-36' w/ 1000 gals. 28% NE-HCL Acid @ 1 BPM. Flush to Perfs w/ 40 bbls TFW.
- 6.) Reset RBP @ $\pm$ 6810'. Reset RTS plu @ $\pm$ 6725'. Acidize Drinkard perfs @ 6777'-81' w/ 1000 gals. 28% NE-HCL Acid @ 1 BPM. Flush to perfs w/ 40 bbls TFW. Reset RBP @ $\pm$ 6850' (below perfs). Reset RTS plu @ $\pm$ 6725'.
- 7.) Swab well in. Place on Production Test. Report Results to Division Office.
- 8.) Reset RBP @ $\pm$ 6750'. POOH w/ 2 7/8" tubing & RTS plu. Rig up Perforating Service. RTH w/ 4" hollow carrier selective fire casing gun, 1 JSRF.

Perforate Drunkard formation @ 6615', 6629', 6653', 6663', 6666', 6674', 6682', 6686', 6690', 6698', & 6702' (11 holes). Perforate from Top to bottom of Interval. (Casing collar per Schlumberger CBL dated 2-7-77 : 6611', 6652', 6697', 6743+').

9.) RTH w/ 2 7/8" tubing & RTTS plu. Set RTTS plu @ $\pm 6550'$.

10.) Ris up Fracturing service. Fracture treat Drunkard formation @ 6615'-6702' w/ the following treatment @ 18 BPM utilizing Limited entry Technique. (Est. WHTP-4800#, Casing burst pressure-3930#)

- A) 6000 gals. gelled fluid pad
- B) 2000 " " " @ 1/2 pp9 20-40 mesh sd.
- C) 4000 " " " 1 " " " "
- D) 6000 " " " 1 1/2 " " " "
- E) 10,000 " " " 2 " " " "
- F) 12,000 " " " 2 1/2 " " " "
- G) Flush w/ 30 bbls TFW. Do not overflush.

Note: Gelled Fluid composition as follows: (B-J Hughes)

- i) 2% KCl water-based fluid
- ii) 30#/mgal. E-28 synthetic polymer gelling Agent
- iii) 10#/mgal. TF-6 crosslinker
- iv) 25#/mgal. Adomite Aqua LFK additive
- v) 5#/mgal. UF-1A pH buffer control
- vi) 1 gal/mgal. T-45 & Adomall surfactant & biocide
- vii) 3#/mgal. Breaker F gel breaker

Total Gelled fluid Volume: 40,000 gals. Total sand wt: 64,000 #

11.) Shut in well for two hours or until pressure dissipates. Poth w/ 2 7/8" tubing, RTTS plu & RRP. RTH w/ 2 7/8" tubing, SN, & OPMA. Set OPMA @ $\pm 6750'$. Set SN @ $\pm 6730'$.

12.) Swab well in. Place well on Production Test. Report Results to Division Office.