Form 9-331
Dec. 1973

Form Approved.
Budget Bureau No. 42-R1424

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☑ gas well ☐ other

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. See space 17 below.)
AT SURFACE: 660' FSL & 1830' FEL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
LC - 031670 (B)

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME
NMFU

8. FARM OR LEASE NAME
SEMU ABO

9. WELL NO.
71

10. FIELD OR WILDCAT NAME
EAST SKAGGS ABO

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
SEC. 18, T20S, R38E

12. COUNTY OR PARISH
LEA

13. STATE
NM

14. API NO.
30-025-07797

15. ELEVATIONS (SHOW DF, KDB, AND WD)

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF	☐	☐
FRACTURE TREAT	☑	☐
SHOOT OR ACIDIZE	☑	☐
REPAIR WELL	☐	☐
PULL OR ALTER CASING	☐	☐
MULTIPLE COMPLETE	☑	☐
CHANGE ZONES	☐	☐
ABANDON*	☐	☐
(other)		

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

PLEASE SEE ATTACHED PROCEDURE.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED Wm A. Sutherland TITLE Administrative Supervisor DATE 8/1/84

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE 9-30-84

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

SEMU NO. 71

DRINKARD COMPLETION

INTRODUCTION:

The first part of this procedure is to perforate, acidize and acid frac the Lower Drinkard (6862' to 6947'). A temperature and GR log is to be run to determine if the acid breakdown & acid frac treated the anticipated interval. The acid in the acid breakdown and the flush in the acid frac is to be tagged w/radioactive material. The Lower Drinkard will then be swab tested to determine if the well will produce in commercial quantities.

The second part of this procedure is to isolate the Lower Drinkard and perforate, acidize and acid frac the Upper Drinkard (6657' to 6831'). A temperature and GR log is to be run to determine if the acid breakdown & acid frac treated the anticipated interval. The acid in the acid breakdown and the flush in the acid frac is to be tagged w/radioactive tracer material. The Upper Drinkard will then be swab tested to determine if the well will produce in commercial quantities.

The third part of this procedure is the circulating of 9# brine water and Cla Sta 2 to prevent damaging the Abo formation when the isolation bridge plug is pulled. Dual production equipment will then be run in the well if the Drinkard horizon proves commercially productive.

WELL DATA:

TD: 9266' PBTD: 7848' ELEVATION: 3552' GL ZERO: 11' AGL

CASING: 13", 50#, "C" @ 244' w/250 sxs
9-5/8", 40 & 36#, J-55 @ 2827' w/1780 sxs
7", 26 & 23#, N-80 & J-55 @ 9265' w/625 sxs

TUBING: 243 jts 2-7/8", 6.5#, J-55 EUE tbg w/OEMA @ 7733' & SN @ 7701' & Baker "B-2" tbg anchor @ 7265'

PERFORATIONS: Abo: 7083'-7657' w/2 JSPF

RECOMMENDED PROCEDURE

NOTE: Filter all water used in this completion to 5 microns.

1. MIRU workover rig.

2. POOH w/rods & pump.

3. NU BOP and POOH w/2-7/8" production tbg.

4. RIH w/6-1/8" bit, 7" csg scraper & 2-7/8" workstring.
   A. Make bit & scraper run to +7100'.
   B. POOH w/2-7/8" workstring, 7" csg scraper & 6-1/8" bit.

5. RIH w/7" RBP, 7" treating pkr, & 2-7/8" workstring.
   A. Set 7" RBP @ +7015' (top perf in Upper Abo @ 7083' & bottom perf in Lower Drinkard will be @ 6947'.
   B. Pressure test 7" RBP to 1500 psi surface pressure.
   C. Dump 3 sxs sand (approx. 14') on top of 7" RBP @ +7015'.
   D. Pull 2-7/8" workstring & 7" treating pkr up to +6150'.
   E. SION to allow well time to stabilize @ geothermal gradient.

6. Rig up wireline unit.
   A. RIH w/GR-CCL-Temp. tool thru 2-7/8" tbg to pkr @ +6150'.
   B. Log Temperature Gradient from bottom of pkr @ +6150' to top of sand @ +7001'.
   C. Log Base Gamma Ray from top of sand @ +7001' to bottom of pkr @ +6150'.
   D. POOH w/GR-CCL-Temp. tool.

7. Spot 4 bbls (168 gals) 15% HCl-NE-FE acid (inhibited for 48 hrs @ 115°F) from 6947' to 6862'.

8. POOH w/2-7/8" workstring & 7" treating pkr.

9. Rig up wireline service company.
   A. RIH w/4", decentralized, select-fire, hollow carrier csg gun (1 JSPF, 0° phasing, 0.40" EHD) w/CCL.
   B. Perforate Lower Drinkard from top to bottom as follows:

6862'	6885'	6907'	6931'	
6868'	6892'	6916'	6935'	
6874'	6896'	6920'	6943'	
6881'	6903'	6927'	6947'	(Total: 16 holes)

   Perforations based on DDNLL log run 10-25-83.

   C. POOH w/4" perforating gun & CCL.

10. RIH w/7" treating pkr, SN, & 2-7/8" workstring, hydrotesting tbg to 5800 psi above the slips.
   A. Set 7" treating pkr @ +6350'.
   B. Load backside w/TFW (fresh water + 2% KCl + 1 gal/1000 gals Adomall).

11. Breakdown Lower Drinkard perfs @ 5-7 BPM as follows:

   NOTE: Acid Composition on page 3.

   NOTE: See Maximum Surface Treating Chart for maximum pressures.

   NOTE: Tag acid w/radioactive tracer material in order to determine if entire zone is being treated.

   A. Pump 32 bbls (1344 gals) (84 gals/perf) 15% HCl-NE-FE acid (inhibited for 48 hrs @ 115°F) dropping 6 - 7/8" RCN ball sealers (S.G. - 1.3) every 8 bbls acid pumped (total: 24 ball sealers).
   B. Flush to bottom perf w/ 60 bbls (2520 gals) & overflush into formation w/10 bbls (420 gals) TFW (fresh water + 2% KCl + 1 gal/1000 gals Adomall).
   C. Leave well shut-in, do not surge off pressure so radioactive tracer material will stay in the formation.

12. Rig up wireline unit & lubricator & run Gamma Ray & Temp. survey immediately following acid breakdown.
    A. RIH w/GR-CCL-Temp. tool thru 2-7/8" tbg to pkr @ ±6350'.
    B. Log Temp. from bottom of pkr @ +6350' to top of sand @ +7001'.
    C. Log Gamma Ray from top of sand @ ±7001' to bottom of pkr @ ±6350'.
    D. POOH w/GR-CCL-Temp. tool.
    E. Rig down lubricator.

13. Release 7" treating pkr @ ±6350'.
    A. Run through perfs knocking balls off.
    B. Reset 7" treating pkr @ ±6350'.
    C. Load backside w/TFW (fresh water + 2% KCl + 1 gal/1000 gals Adomall).

14. Acid frac Lower Drinkard perfs in 2 equal stages @ 14 BPM as follows:

    NOTE: Acid & gelled fluid composition on page 3.

    NOTE: See Maximum Surface Treating Chart for maximum pressures.

    NOTE: Tag gelled fluid flush in Steps C, & G only w/radioactive tracer material in order to determine if all zones were treated.

    A. Pump 53 bbls (2226 gals) gelled fluid pad.
    B. Pump 73 bbls (3066 gals) 15% HCl-NE-FE acid (inhibited for 48 hrs @ 115°F).
    C. Pump 39 bbls (1638 gals) gelled fluid flush w/radioactive tracer material.
    D. Drop 8 - 7/8" RCN ball sealers (S.G. - 1.1).
    E. Pump 53 bbls (2226 gals) gelled fluid pad.
    F. Pump 73 bbls (3066 gals) 15% HCl-NE-FE acid (inhibited for 48 hrs @ 115°F).
    G. Pump 39 bbls (1638 gals) gelled fluid flush w/radioactive tracer material.
    H. Flush to bottom perf w/60 bbls (2520 gals) gelled fluid.
    I. Leave well shut-in, do not surge off pressure so radioactive tracer material will stay in the formation.

    NOTE: Record ISIP, 5, 10, & 15 min shut-in pressures.

    NOTE: Leave well shut-in minimum of 4 hrs before swabbing back.

    Total volume gelled fluid (pad & flush) - 244 bbls (10,248 gals)

    Total volume 15% HCl (breakdown & frac) - 178 bbls (7,476 gals)

    Total volume TFW - 70 bbls (2940 gals)

Acid Composition	Gelled Fluid Composition
15% HCL	2% KCl Base Fluid
Iron Sequesterant (Citric Acid)	40 lbs/1000 gals Hydroxypropyl Guar Gum
Non-Emulsifier	25 lbs/1000 gals Adomite Aqua
Surfactant (Non-Ionic)	Non-Emulsifier
Friction Reducer	Surfactant (Non-Ionic)
Corrosion Inhibitor	Adocide
	Breaker - (2 hr break)

15. Rig up lubricator & run Gamma Ray & Temp. survey immediately following Acid Frac.
    A. RIH w/GR-CCL-Temp tool thru 2-7/8" tbg to pkr @ ±6350'.
    B. Log Temp. from bottom of pkr @ ±6350' to top of sand @ ±7001'.
    C. Log Gamma Ray from top of sand @ ±7001' to bottom of pkr @ ±6350'.
    D. POOH w/GR-CCL-Temp tool.
    E. Rig down lubricator.

16. Swab back load ±492 bbls (20,664 gals) & swab test recording oil cut & fluid levels. Report results to Jeff Marshall, Ext. 165.

17. Release 7" treating pkr @ ±6350' & POOH w/2-7/8" workstring & 7" treating pkr.

18. RIH w/7" RBP, 7" treating pkr & 2-7/8" workstring.
    A. Set 7" RBP @ ±6847' (top perf in Lower Drinkard @ 6862' & bottom perf in Upper Drinkard will be @ 6831').
    B. Pressure test 7" RBP to 1500 psi surface pressure.
    C. Spot 7 bbls (294 gals) 15% HCl-NE-FE acid (inhibited for 48 hrs @ 115°F) from 6831' to 6657'.
    D. POOH w/2-7/8" workstring & 7" treating pkr.

19. Rig up wireline service company.
    A. RIH w/4", decentralized, select-fire, hollow carrier csg gun (1 JSPF, 0° phasing, 0.40" EHD) w/CCL.
    B. Perforate Upper Drinkard from top to bottom as follows:

6657'	6700'	6794'	
6661'	6718'	6804'	
6668'	6723'	6808'	
6681'	6754'	6827'	(Total: 17 holes)
6690'	6769'	6831'	
6696'	6790'		

    Perforations based on DDNLL log run 10-25-83.

    C. POOH w/4" perforating gun & CCL.

20. RIH w/7" treating pkr, SN, & 2-7/8" workstring, hydrotesting tbg to 5800 psi above the slips.
    A. Set 7" treating pkr @ ±6150'.
    B. Load backside w/TFW (fresh water + 2% KCl + 1 gal/1000 gals Adomall).

21. Breakdown Upper Drinkard perfs @ 5-7 BPM as follows:

    NOTE: Acid Composition on page 6.

    NOTE: See Maximum Surface Treating Chart for maximum pressures.

    NOTE: Tag acid w/radioactive tracer material in order to determine if entire zone is being treated.

A. Pump 35 bbls (1470 gals) (86.5 gals/perf) 15% HCl-NE-FE acid (inhibited for 48 hrs @ 115°F) dropping 5 - 7/8" RCN ball sealers (S.G. - 1.3) every 7 bbls acid pumped (total: 25 ball sealers).
B. Flush to bottom perf w/ 62 bbls (2604 gals) & overflush into formation w/10 bbls (420 gals) TFW (fresh water + 2% KCl + 1 gal/1000 gals Adomall).
C. Leave well shut-in, do not surge off pressure so radioactive tracer material will stay in the formation.

22. Rig up wireline unit & lubricator & run Gamma Ray & Temp. survey immediately following acid breakdown.
A. RIH w/GR-CCL-Temp tool thru 2-7/8" tbg to pkr @ +6150'.
B. Log Temp. from bottom of pkr @ +6150' to top of 7" RBP @ +6847'.
C. Log Gamma Ray from top of 7" RBP @ +6847' to bottom of pkr @ +6150'.
D. POOH w/GR-CCL-Temp tool.
E. Rig down lubricator.

23. Release 7" treating pkr @ +6150'.
A. Run through perfs knocking balls off.
B. Reset 7" treating pkr @ +6150'.
C. Load backside w/TFW (fresh water + 2% KCl + 1 gal/1000 gals Adomall).

24. Acid Frac Upper Drinkard perfs in 2 equal stages @ 13 BPM as follows:

NOTE: Acid & gelled fluid composition on page 6.

NOTE: See Maximum Surface Treating Chart for maximum pressures.

NOTE: Tag gelled fluid flush in steps C & G only w/radioactive tracer material in order to determine if all zones were treated.

A. Pump 52 bbls (2184 gals) gelled fluid pad.
B. Pump 72 bbls (3024 gals) 15% HCl-NE-FE acid (inhibited for 48 hrs @ 115°F).
C. Pump 38 bbls (1596 gals) gelled fluid flush w/radioactive tracer material.
D. Drop 9 - 7/8" RCN ball sealers (S.G. - 1.1).
E. Pump 52 bbls (2184 gals) gelled fluid pad.
F. Pump 72 bbls (3024 gals) 15% HCl-NE-FE acid (inhibited for 48 hrs @ 115°F).
G. Pump 38 bbls (1596 gals) gelled fluid flush w/radioactive tracer material.
H. Flush to bottom perf w/62 bbls (2604 gals) TFW (fresh water + 2% KCl + 1 gal/1000 gals Adomall).
I. Leave well shut-in, do not surge off pressure so that radioactive tracer material will stay in the formation.

NOTE: Record ISIP, 5, 10, & 15 min shut-in pressures.

NOTE: Leave well shut-in minimum of 4 hrs before swabbing back.

Total volume gelled fluid (pad & flush) - 242 bbls (10,164 gals)

Total volume 15% HCl (breakdown & frac) - 179 bbls (7,518 gals)

Total volume TFW - 72 bbls (3024 gals)

Acid Composition	Gelled Fluid Composition
15% HCL	2% KCl Base Fluid
Iron Sequesterant (Citric Acid)	40 lbs/1000 gals Hydroxypropyl Guar Gum
Non-Emulsifier	25 lbs/1000 gals Adomite Aqua
Surfactant (Non-Ionic)	Non-Emulsifier
Friction Reducer	Surfactant (Non-Ionic)
Corrosion Inhibitor	Adocide
	Breaker - (2 hr break)

25. Rig up lubricator & run Gamma Ray & Temp. survey immediately following Acid Frac.
    A. RIH w/GR-CCL-Temp tool thru 2-7/8" tbg to pkr @ +6150'.
    B. Log Temp. from bottom of pkr @ +6150' to top of RBP @ +6847'.
    C. Log Gamma Ray from top of RBP @ +6847' to bottom of pkr @ +6150'.
    D. POOH w/GR-CCL-Temp tool.
    E. Rig down lubricator.

26. Swab back load +493 bbls (20,706 gals) & swab test recording oil cut & fluid levels. Report results to Jeff Marshall, Ext. 165.

27. Release 7" treating pkr @ +6150'.
    A. Release 7" RBP @ +6847'.
    B. POOH w/2-7/8" workstring, 7" treating pkr, & 7" RBP.

28. RIH w/retrieving tool & 2-7/8" workstring.
    A. Circulate sand off of 7" RBP @ +7015'.
    B. Circulate hole w/9#/gal brine (9#/gal brine water + 2 gals/1000 gals Cla Sta 2 + 1 gal/1000 gals Adomall).
    C. Release 7" RBP @ +7015'.
    D. POOH w/2-7/8" workstring, retrieving tool, & 7" RBP.

29. Rig up wireline unit.
    A. RIH w/4-1/2" x 6' long millout extension, Baker Model "DB" permanent pkr & CCL.
    B. Set permanent pkr @ 6990'. (Csg collars @ 6974' & 7006').

30. RIH w/2-3/8" OEMA w/half mule shoe wireline entry guide, 1.781" seating nipple, 2-3/8" tailpipe, Baker 81-32 Model "E" Anchor Seal Assembly, venthead assembly, 1.81 "F" nipple, back-off sub, 2-3/8" Buttress tbg, Otis Parallel Anchor @ 6620', 2-3/8" Buttress tbg.

31. RIH w/2-3/8" OEMA w/half mule shoe wireline entry guide @ 6980', 1.781" seating nipple, 2-3/8" Buttress tbg, J-latch, 2-3/8" Buttress tbg.

32. RIH w/vent stinger & 1-1/4" vent string.