

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT -" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well: ☐ OIL WELL ☒ GAS WELL ☐ OTHER

2. Name of Operator
TEXACO EXPLORATION & PRODUCTION, INC.

3. Address and Telephone No. 3300 N. Butler Suite 100, Farmington NM 87401 325-4397

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Unit Letter M : 660 Feet From The SOUTH Line and 660 Feet From The

WEST Line Section 17 Township 25N Range 3W

5. Lease Designation and Serial No.

SF 079600

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and Number

C W ROBERTS

4

9. API Well No.

3003905965

10. Field and Pool, Exploratory Area

WEST LINDRITH GALLUP/DAKOTA

11. County or Parish, State

RIO ARRIBA, NM

12. Check Appropriate Box(s) To Indicate Nature of Notice, Report, or Other Data

TYPE OF SUBMISSION

TYPE OF ACTION

☐ Notice of Intent

☐ Subsequent Report

☐ Final Abandonment Notice

☐ Abandonment

☐ Recompletion

☐ Plugging Back

☐ Casing Repair

☐ Altering Casing

☐ OTHER: SIDE - TRACK

☐ Change of Plans

☐ New Construction

☐ Non-Routine Fracturing

☐ Water Shut-Off

☐ Conversion to Injection

☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log Form.)

RECEIVED
JUL 11 1995
OIL CON. DIV.
DIST. 3

13. 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.)*

TEXACO E. & P., INC. PROPOSES THE FOLLOWING TO THE SUBJECT WELL:

UPON APPROVAL FROM THE N.M.O.C.D. AND B.L.M., TEXACO PROPOSES TO RE-ENTER THE EXISTING WELLBORE, AND DRILL A SHORT RADIUS HORIZONTAL LATERAL INTO THE GALLUP FORMATION. THE PROPOSED ACTION IS AS FOLLOWS:

1. DRILL THRU EXISTING CEMENT PLUGS AND CIBP AT 5325'. AND CEMENT AND RETAINER AT 6875'.
2. MILL OUT A 40' SECTION OF 5-1/2" CASING AT +/- 6890' - 6930'.
3. SPOT KICK-OFF CEMENT PLUG 200' ABOVE WINDOW. DRILL CEMENT AND DRESS OFF FOR HARDNESS.
4. DRILL SHORT RADIUS CURVE SECTION IN EAST DIRECTION. KICK-OFF POINT IS 6900', TARGET DEPTH OF 7000' (TVD) FOR BEGINNING OF HORIZONTAL SECTION. PLANNED BUILD RATE OF 57 DEGREES / 100 FEET WITH 100' RADIUS.
5. DRILL A 2500' HORIZONTAL SECTION IN EAST DIRECTION. THE TARGETED TVD OF THE HORIZONTAL SECTION WILL BE 7160'.
6. SET COMPLETION EQUIPMENT. TEST WELL.

THE ATTACHED PROCEDURE WILL BE USED. PLEASE REFER TO ATTACHED WELLBORE DIAGRAMS.

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

SIGNATURE Ted A. Tipton

TITLE Operating Unit Manager

DATE 6/2/95

TYPE OR PRINT NAME Ted A. Tipton

(This space for Federal or State office use)

APPROVED Robert Kent TITLE Chief, Lands and Mineral Resources

DATE JUL 11 1995

CONDITIONS OF APPROVAL, IF ANY: _____

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Attachment I

C. W. ROBERTS #4 HORIZONTAL SINGLE LATERAL REENTRY

The subject well is a producing well. It is to be reentered and a single horizontal lateral is to be drilled in the Gallup formation. The existing perforations in the Pictured Cliff and Mesa Verde formations will be squeeze cemented and a 40' section is to be milled in the casing. A short radius horizontal lateral will be drilled in the west direction approximately 2500' long. The well will be acidized using coiled tubing, if necessary, and then production tested.

WELL PREPARATION:

- 1) MIRUSU. Nipple up 3M BOPE.
- 2) Kill well with produced water.
- 3) TOH and lay down production tubing.
- 4) TIH with 4-3/4" bit on 2-7/8" work string and clean out to PBTD. TOH.

SQUEEZE EXISTING PERFORATIONS:

- 5) TIH with cement retainer on tubing and set above Pictured Cliff perms (3680'-3700') at 3650'.
- 6) Space out tubing in neutral position and test tubing to 3000 psi. Rig up squeeze manifold. Establish rate into perforations (2 BPM), note pump in pressure. Pressure up annulus to 1000 psi. monitor casing during job.
- 7) Cement squeeze with 150 sx Class "G" with 0.2% D156 and 0.2% D65 to obtain a fluid loss of 200-300 cc/30 min. (determine by lab testing) followed by 100 sx Class "G" neat, mixed at 15.8 ppg. Minimum pump time 150 minutes at 175°F.
 - a) Spot cement to end of tubing.
 - b) Sting into retainer.
 - c) When cement reaches perforations, slow rate to 1/2 BPM
 - d) Maximum squeeze pressure 3000 psi.
 - e) Displace cement to retainer.
- 8) Pull out of retainer, reverse out cement and check for flow. Pull tubing to 2000' and shut-in for 24 hours. TOH with tubing.

C. W. Roberts No. 4
Horizontal Reentry
Rio Arriba County, New Mexico
Drilling & Completion Procedure

- 9) Trip in hole with 4-3/4" bit, drill collars and tubing and drill out retainer and cement to 3700'. Circulate hole clean. Shut in backside and test casing to 500 psi.
- 10) Drill out cement retainers (3879' & 4480') and cement plugs (4000' & 4580') and test to 500 psi. Drill out CIBP at 5325'. Repeat steps 5 - 9 for squeezing Mesa Verde perms at 5352'-73 and 5555'-65'. Drill out cement retainer at 6875' and cement to 6940'

MILL 5 1/2" CASING:

- 11) Circulate hole with mud for milling. TOH with tubing and bit.

MUD: Starch
Volume: (6800' * .0238 bbl/ft = 162 bbls - 200 bbls for pit = 362 bbls)
Weight: 8.5 - 8.7
Funnel Visc.: 75-80

- 12) If casing collar log is not available in Area, Run GR-CCL to determine position of collars. (Window may be moved +/- 10 to avoid milling a casing collar).
- 13) TIH with mill for 5 1/2" casing on 2 7/8" workstring. Mill 40' section of casing from +/- 6890' - 6930'. While milling, run paper sweeps in the mud to ensure the hole is clean. Place ditch magnets in return lines to catch metal cuttings. Any time a trip is made, make sure the hole is clean and the blades are retracted.
- 14) TOH with mill.

SPOT KICK OFF PLUG:

- 15) TIH with diverter tool and +/- 400' 2 3/8" (2 1/16" if available) on 2 7/8" work string to PBTD 6940'. Circulate Starch mud out of hole. Pull up hole so diverter tool is across milled section and wash section. TIH to PBTD.
- 16) Spot 50 sx Class "G" mixed at 17.5 PPG from 6700' to +/- 6940' (200' above window). Batch mix cement. Pull out of cement plug slow to approximately 4000'. **Do not reverse circulate**. Shut in for 24 hours minimum. TOH with tubing.

C. W. Roberts No. 4
Horizontal Reentry
Rio Arriba County, New Mexico
Drilling & Completion Procedure

- 17) TIH with 4 3/4" bit and dress off cement to the KOP at 6900'. TOH with 4 3/4" bit. Cement must drill 1.5-2 min/ft with 10 pts and 50 RPM to insure the plug is hard enough for kickoff.
- 18) Circulate hole clean.

DRILL CURVE SECTION (WEST DIRECTION):

- 19) Displace hole with starch mud. TOH with bit.

MUD: Starch
Volume: (6800' * .0238 bbl/ft + 200 bbls for pit + 2500' * .0219 bbl/ft)
(162 bbls + 200 bbls + 55 bbls = 417 bbls)
Weight: 8.7
Funel Visc.: 35-40

- 20) Pick up kick-off motor and test on surface. TIH with kick-off BHA s follows:
4 3/4" bit.
Kick-off motor (with 2.5-3.0° bent sub)
Float/ orientation sub.
1 jt 2 7/8" flexible monel collars.
Enough P-110 tubing to reach from KOP to end of planned horizontal wellbore.
Drill collars
2 7/8", Grade G, AOH DP. to surface.
- 21) TIH to **KOP (6900')**. Run GYRO and Orient motor to west direction. Break circulation and establish off bottom pressure at operating flow rates. **Planned build rate is 57°/100' with a radius of 100'.**
- 22) Slowly lower motor to bottom, adjusting toolface as necessary to compensate for reactive torque. Drill approximately 20' of build section with kick-off motor. TOH with kick-off motor and lay down. Pick up build motor (3 restricted articulations to maintain build rates below 70°/100') and TIH. Continue drilling curve while maintaining proper toolface orientation. Drill curve section to **target depth of 7000' TVD** for start of horizontal.

C. W. Roberts No. 4
Horizontal Reentry
Rio Arriba County, New Mexico
Drilling & Completion Procedure

- 23) Circulate hole clean. TOH with curve motor.

DRILL HORIZONTAL LATERAL (WEST DIRECTION):

- 24) TIH with lateral motor BHA. (Same as step 22 but motor has lower build rate.)
- 25) Drill the **horizontal lateral (2500')** adjusting tool face as needed to the target. **The end of the horizontal target depth is 7030' TVD.** There is a window around the target line which the well path is to stay within. (see attached well plan for well path and hardlines). While drilling the lateral section, run sweeps of 5 bbls. water, 3 bbls prehydrated gel (90+ viscosity), and 1 gallon polymer.
- 26) At TD circulate hole clean with mud. TOH. Release directional equipment.

COMPLETION:

- 27) TIH with muleshoe. 6 jts P-110 tbg and 5-1/2" casing on 2 7/8" tubing. Space out so P-110 tubing is across curve section and packer is in the casing. Set the packer.
- 28) Rig up coiled tubing unit. TIH with "PERFCLEAN" jetting sub on 1 1/2" coiled tubing to TD. Circulate mud out of hole
- 29) Wash 1st lateral open hole with 25,000 gallons 15% NEFE. Rate 2 BPM. POH with coiled tubing while acidizing so entire open hole is stimulated.
- 30) Displace acid to the end of the tubing. SI for 15 min.
- 31) Flow well until dead. TOH with coiled tubing.
- 32) TOH with workstring. TIH with production equipment and test well as needed.



5/17/85

C.W. ROBERTS No. 4

Current Completion

LOCATION:

660' FSL & 660' FWL
SW/SW, Sec. 17, T25N, R3W
Rio Arriba County

SPUD DATE: 6-15-58

COMPL DATE: 7-23-58

ELEVATION: 7152' KB
7142' GR

PICTURED CLIFF PERFS (10/89):

3680'-3700'
20', 4 JSP

Add w/ 500 Gal. 15% HCl
Frac w/ 40,000# 20/40 Sand & 43,000 Gal. KCl Water
BDP 1330#, AVG IR 6 BPM @ 600#

TOC @ 4970' (Temp. Survey)

MESAVERDE PERFS (10/89):

5352'-73', 5555'-65'
1 SPF, Total 29 shots

Frac w/ 75,000# 20/40 Sand & 77,000 Gal. KCl Water
BDP 3400#, AVG IR 40 BPM @ 3900#

GALLUP PERFS:

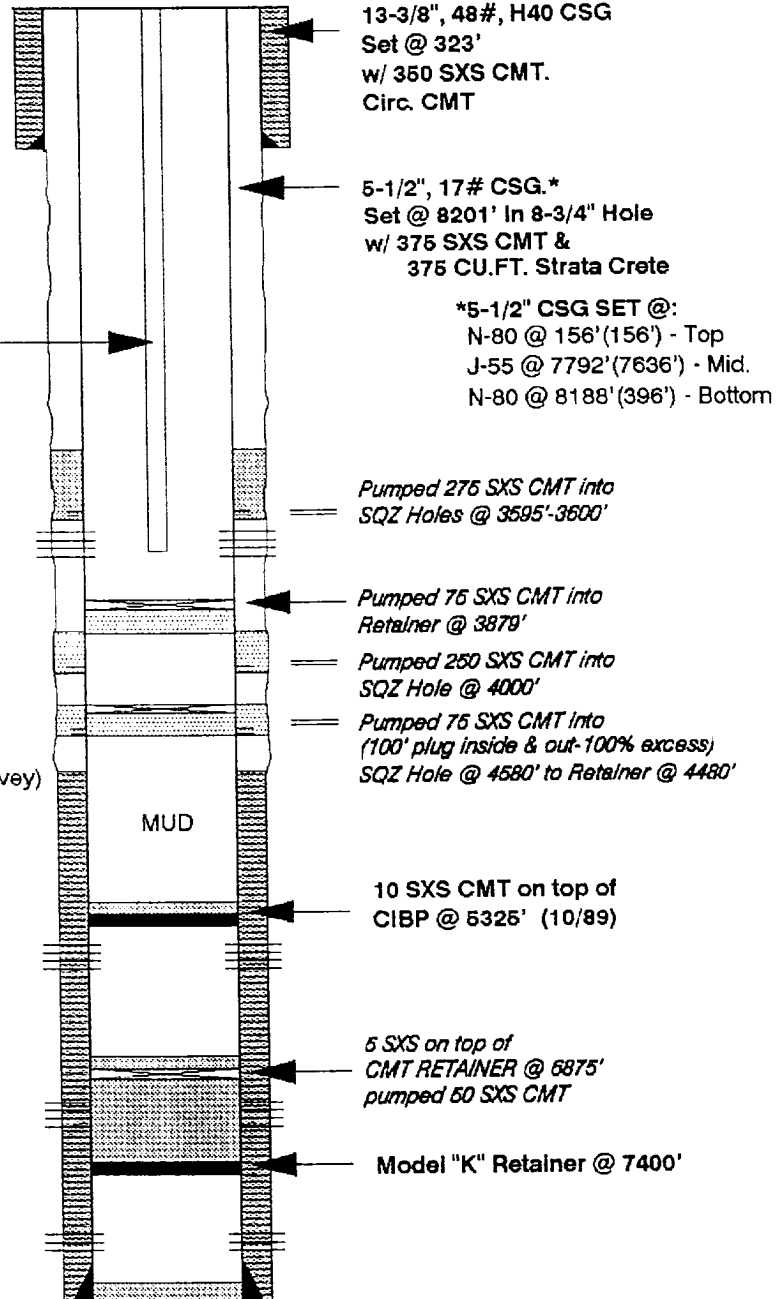
6960'-7250'
100', 1 SPF, Total 200 shots

Frac w/ 120,000# 40-60 Sand & 63,000 Gal. Use Oil
3500 Gal. Acid, MAX TP 4500#, AVG IR 20 BPM

DAKOTA PERFS:

8024'-8057'
33', 4 SPF, Total 132 shots

Frac w/ 20,000# 40-60 Sand & 25,000 Gal. Use Oil
BDP 2700#, MAX TP 3500#, SD 2200#, IR 23.3 BPM



PBTD - 3879'
TD - 8220'



C.W. ROBERTS No. 4

PROPOSED SIDETRACK COMPLETION

