Form 3160-5
(June 1990)

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

5. Lease Designation and Serial No: SF 079294

6. If Indian, Allottee or Tribe Name:

7. If unit or CA, Agreement Designation: San Juan 28-7

1 Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No: 226E

2 Name of Operator
CONOCO INC.

9. API Well No: 30-039-26176

3 Address and Telephone
10 DESTA DRIVE, SUITE 649W, MIDLAND, TEXAS 79705-4500

10. Field and Pool, or Exploratory Area: Mesaverde/Basin Dakota

4 Location of Well (Footage, Sec., T. R. M. or Survey Description)
1500' FNL & 2400' FWL
Sec. 36, T28N, R7W

11. County or Parish, State: Rio Arriba, New Mexico

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
☒ Notice of Intent	☐ Abandonment	☒ Change of Plans
☐ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☐ Conversion to Injection
	☒ Other change in casing	☐ Dispose Water

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

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.

Conoco Inc. proposes to make changes in casing as reflected in the attached revised well plan outline.

14. I hereby certify that the foregoing is true and correct
Signed Jo Ann Johnson Title Jo Ann Johnson - Sr. Property Analyst Date September 8, 1999

15. (This space for Federal or State office use)
Approved by WAYNE TOWNSEND Title A. T. C. Date SEP
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.

TVD IN 1000'	MD	FORMATION TOPS & TYPE	DRILLING PROBLEMS	TYPE OF FORMATION EVALUATION	HOLE SIZE	CASING SIZE AND DEPTH	FRAC GRAD. psi/ft	FORMATION PRESSURE PSI	MUD WT & TYPE	DAY
					12-1/4"			NORMAL	SPUD MUD 8.4 - 8.8#	
					12-1/4"	9-5/8" 32.3# H-40 STC @ 500'				1
					8-3/4"				GEL/WATER: 8.4 - 8.8#	
1									MAINTAIN MW AS LOW AS POSSIBLE	
2										
		OJAM @ 2423'	POSSIBLE WATERFLOW						GEL/POLYMER: 8.6 - 9.0#	
		KRLD @ 2552'							CONTROL FLUID LOSS PRIOR TO OJAM	
		FRLD @ 2829'	POSSIBLE GAS FLOW			POSSIBLE DV TOOL 2800		432 PSI	(10-12 CC)	
3			POSSIBLE LOST RETURNS							
		PCCF @ 3227'	POSSIBLE DIFFERENTIAL STICKING					360 PSI		
		LEWS @ 3399'								
4		CHRA @ 4184'						400 PSI		
		CLFH/MV @ 4872'	PROBABLE LOST RETURNS				0.5	457 PSI		
5		MENF @ 5025'	IF FLUID IN HOLE							
		PTLK @ 5452'	PROBABLE LOST RETURNS							
		MNCS @ 5856'				POSSIBLE DV TOOL 5850				
6			PROBABLE LOST RETURNS	FORMATION COMPENSATED DENSITY OR LITHODENSITY W/ GAMMA RAY & CALIPER						
		GLLP @ 6636'	PROBABLE LOST RETURNS							
7				COMPENSATED NEUTRON LOG						
		GRHN @ 7383'	POSSIBLE WATERFLOW							
		GRRS @ 7442'	POSSIBLE OVERPRESSURE IN DEEP DAKOTA	INDUCTION RESISTIVITY W/ GAMMA RAY & SP	8-3/4"	4-1/2" 10.5# J-55 STC @ 7734' CEMENT TO SURFACE (POSSIBLE 2 OR 3 STAGE)	0.5	713 PSI BHT = 175 deg F		16
		PAGU @ 7599'								
		T.D. @ 7834'								
8										
		NOTE: PERMIT TO 8134'								

2:23 PM

DATE PREPARED: 08/17/99

Ricky Joyce/Brett Thompson
DRILLING ENGINEER

APPROVALS:

M. Shannon
RES. ENGINEER

PROD. ENGINEER

TJG
GEOLOGIST

DRILLING MGR.

PRIMARY CEMENTING PROPOSAL

SURFACE & 3 STAGE LONGSTRING

Conoco

San Juan 28-7 Unit #226E

Well Location

Field	:	San Juan Unit
County	:	Rio Arriba
State	:	Nm
Country	:	USA

Prepared for	:	**Brett Thompson** **Ricky Joyce**	Service Point Business Phone	: :	FARMINGTON, NM 505-325-5096
Date Prepared	:	8/20/99	FAX No.	:	505-327-0317

Prepared by	:	Duane Gonzalez
Phone	:	(281) 293-4538
FAX	:	(281) 293-4424
E-Mail address	:	dgonzalez@houston.dowell.slb.com

Disclaimer Notice:

This information is presented in good faith, but no warranty is given and Dowell assumes no liability for advice or recommendations made concerning results to be obtained from the use of any product or service. Prices quoted are estimates only, and are good for 30 days from the date of issue. Actual charges may vary depending upon time, equipment, and material, ultimately required to perform these services. Freedom from infringement of patents of Dowell or others is not to be inferred.

Well Data: 9 5/8 in. Surface

< Surface

Depth	500	ft.
Casing Size	9 5/8	in., 32.3 lbs./ft.
Open Hole Diameter	12 1/4	in.
BHST	100	°F
BHCT	80.0	°F
Total Excess	100	%
Tail Excess	100	%

Mud Wt./Type: 8.4 ppg Fresh Wtr. Based

Calculations:

Volume Factors:

Casing x Open Hole	0.3132 cu.ft./ft
Casing (Internal)	0.4411 cu.ft./ft

Top of Cement **Surface**

Cement System:

Open Hole Fill	(500 x 0.3132 x 2.) / 1.19 = 262 sks.
Casing Shoe Cement	(40 x 0.4411) / 1.19 = 15 sks.
	Total Tail Cement = 277 sks.

< T.D. - 500 ft.

Cementing Systems

Spacer System: 20 bbls .

Fresh Water

Cement System: 275 sks.

Class B + 2% S1 + 0.25 pps D29

Mix Weight	:	15.6	PPG
Yield	:	1.19	cu.ft./sk.
Mix Water	:	5.19	gal./sk.
Fluid Loss	:	800	cc/30 minutes
Thickening Time	:	0.125	hours:minutes
Comp. Strength	:	1,000	psi in 12 hrs.

Notice:

Performance parameters for cement systems recommended are typically taken from existing laboratory data. In some cases, data exist which duplicate the recommended systems and job environment, but when those data do not exist, extrapolations are made from data which most closely match the anticipated conditions. Sufficient lead-time should always be allowed, so that pilot samples/field blends can be run to verify system performance parameters, before actually pumping the job.

Well Data: 4 1/2 in. Production - Stage 1

< Surface

Depth	7,834	ft.
Casing Size	4 1/2	in., 11.6 lbs./ft.
Open Hole Diameter	8 3/4	in.
Previous Csg. Depth	500	ft.
Previous Csg. Size	9 5/8	in., 32.3 lbs./ft.
BHST	175	°F
BHCT	130.9	°F
Total Excess	35	%
Lead Excess (calculated O.H.)	35.0	%
Tail Excess	35	%
Stage Collar Depth	5,850	ft.

< Previous Csg.
500 ft.

Mud Wt./Type: 8.6 ppg Fresh Wtr. Based

Calculations:

Volume Factors:

Casing x Open Hole	0.3071 cu.ft./ft
Casing x Previous Casing	0.3307 cu.ft./ft
Casing (Internal)	0.0874 cu.ft./ft

Top of Lead **5,850 ft.**
Top of Tail **7,234 ft.**

Lead System:

Total Lead Fill (1,384 x 0.3071 x 1.35) / 2.86 = 201 sks.

< Top of Cmt./DV Tool
5,850 ft.

Tail System:

Top of Lead
7,234 ft.

Open Hole Fill	(600 x 0.3071 x 1.35) / 1.45 = 171 sks.
Casing Shoe Cement	(80 x 0.0874) / 1.45 = 5 sks.
	Total Tail Cement = 176 sks.

< T.D. - 7,834 ft.

Cementing Systems

Spacer System: 20 bbls .

CW-100 Chemical Wash

Lead System: 200 sks.

Class B + 3% D79 + 0.1% D46 + 0.25 pps D29

Mix Weight	:	11.4	PPG
Yield	:	2.86	cu.ft./sk.
Mix Water	:	17.64	gal./sk.
Fluid Loss	:	700	cc/30 minutes
Thickening Time	:	5:00	hours:minutes
Comp. Strength	:	600	psi in 24 hrs.

Tail System: 175 sks.

50:50 Poz:Class B + 2% D20 + 0.5% D60 + 0.2% D65 + 0.1% D46 + 0.25 pps D29

Mix Weight	:	12.8	PPG
Yield	:	1.45	cu.ft./sk.
Mix Water	:	7.15	gal./sk.
Fluid Loss	:	350	cc/30 minutes
Thickening Time	:	4:30	hours:minutes
Comp. Strength	:	500	psi in 24 hrs.

Notice:

Performance parameters for cement systems recommended are typically taken from existing laboratory data. In some cases, data exist which duplicate the recommended systems and job environment, but when those data do not exist, extrapolations are made from data which most closely match the anticipated conditions. Sufficient lead-time should always be allowed, so that pilot samples/field blends can be run to verify system performance parameters, before actually pumping the job.

Well Data: 4 1/2 in. Production - Stage 2

< Surface

Depth	7,834	ft.
Casing Size	4 1/2	in., 11.6 lbs./ft.
Open Hole Diameter	8 3/4	in.
Previous Csg. Depth	500	ft.
Previous Csg. Size	9 5/8	in., 32.3 lbs./ft.
BHST	175	°F
BHCT	118.0	°F
Total Excess	35	%
Tail Excess	35	%
Stage Collar Depth	5,850	ft.

< Previous Csg.
500 ft.

Mud Wt./Type: 8.6 ppg Fresh Wtr. Based

Calculations:

Volume Factors:

Casing x Open Hole	0.3071 cu.ft./ft
Casing x Previous Casing	0.3307 cu.ft./ft
Casing (Internal)	0.0874 cu.ft./ft

< Top of Cmt.
2,800 ft.

Top of Cement **2,800 ft.**

Cement System:

Open Hole Fill	(3,050 x 0.3071 x 1.35) / 1.45 = 872 sks.
Casing Shoe Cement	(40 x 0.0874) / 1.45 = 2 sks.
	Total Tail Cement = 874 sks.

< Stage Collar (DV)
5,850 ft.

< T.D. - 7,834 ft.

Cementing Systems

Spacer System: 20 bbls .

CW-100 Chemical Wash

Cement System: 875 sks.

50:50 Poz:Class B + 2% D20 + 0.5% D60 + 0.2% D65 + 0.1% D46 + 0.25 pps D29

Mix Weight	:	12.8	PPG
Yield	:	1.45	cu.ft./sk.
Mix Water	:	7.15	gal./sk.
Fluid Loss	:	350	cc/30 minutes
Thickening Time	:	4:30	hours:minutes
Comp. Strength	:	500	psi in 24 hrs.

Notice:

Performance parameters for cement systems recommended are typically taken from existing laboratory data. In some cases, data exist which duplicate the recommended systems and job environment, but when those data do not exist, extrapolations are made from data which most closely match the anticipated conditions. Sufficient lead-time should always be allowed, so that pilot samples/field blends can be run to verify system performance parameters, before actually pumping the job.

Well Data: 4 1/2 in. Production - Stage 3

< Surface

Depth	7,834	ft.
Casing Size	4 1/2	in., 11.6 lbs./ft.
Open Hole Diameter	8 3/4	in.
Previous Csg. Depth	500	ft.
Previous Csg. Size	9 5/8	in., 32.3 lbs./ft.
BHST	128	°F
BHCT	95.8	°F
Total Excess	35	%
Lead Excess (calculated O.H.)	35.0	%
Tail Excess	35	%
Stage Collar Depth	2,800	ft.

< Previous Csg.
500 ft.

Mud Wt./Type: 8.6 ppg Fresh Wtr. Based

Calculations:

Volume Factors:

Casing x Open Hole	0.3071 cu.ft./ft
Casing x Previous Casing	0.3307 cu.ft./ft
Casing (Internal)	0.0874 cu.ft./ft

< Top of Tail
1,800 ft.

Top of Lead	**Surface**
Top of Tail	**1,800 ft.**

Lead System:

< Stage Collar (DV-2)
2,800 ft.

Open Hole Fill	(1,300 x 0.3071 x 1.35) / 2.86 = 188 sks.
Previous Casing Fill	(500 x 0.3307) / 2.86 = 58 sks.
	Total Lead Cement = 246 sks.

< Stage Collar (DV-1)
5,850 ft.

Tail System:

Open Hole Fill	(1,000 x 0.3071 x 1.35) / 1.45 = 286 sks.
Casing Shoe Cement	(40 x 0.0874) / 1.45 = 2 sks.
	Total Tail Cement = 288 sks.

< T.D. - 7,834 ft.

Cementing Systems

Spacer System: 20 bbls .

CW-100 Chemical Wash

Lead System: 245 sks.

Class B + 3% D79 + 0.1% D46 + 0.25 pps D29

Mix Weight	:	11.4	PPG
Yield	:	2.86	cu.ft./sk.
Mix Water	:	17.64	gal./sk.
Fluid Loss	:	700	cc/30 minutes
Thickening Time	:	5:00	hours:minutes
Comp. Strength	:	600	psi in 24 hrs.

Tail System: 290 sks.

50:50 Poz:Class B + 2% D20 + 0.5% D60 + 0.2% D65 + 0.1% D46 + 0.25 pps D29

Mix Weight	:	12.8	PPG
Yield	:	1.45	cu.ft./sk.
Mix Water	:	7.15	gal./sk.
Fluid Loss	:	350	cc/30 minutes
Thickening Time	:	4:30	hours:minutes
Comp. Strength	:	500	psi in 24 hrs.

Notice:

Performance parameters for cement systems recommended are typically taken from existing laboratory data. In some cases, data exist which duplicate the recommended systems and job environment, but when those data do not exist, extrapolations are made from data which most closely match the anticipated conditions. Sufficient lead-time should always be allowed, so that pilot samples/field blends can be run to verify system performance parameters, before actually pumping the job.