Form 3169-5 (June 1990)

# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

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

BUREAU OF LAND MANAGE	MENT	5. LEASE DESIGNATION AND SERIAL NO. NM-019414
SUNDRY NOTICES AND REF	PORTS ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Do not use this form for proposals to drill or to dee Use "APPLICATION FOR PERMI	pen or reentry to a different reservoir2 2	
SUBMIT IN TRIPL	ICATE Colors	7. IF UNIT OR CA, AGREEMENT DESIGNATION
1. TYPE OF WELL OIL WELL GAS WELL OTHER	- DECENTER	8. WELL NAME AND NO. Federal Gas Com 1 #2
<ol> <li>NAME OF OPERATOR         Cross Timbers Operating Company. (Loren     </li> </ol>	W. Fothergill) MAY 2 0 1999	9. API WELL NO. 30-045-29816
<ol> <li>ADDRESS AND TELEPHONE NO.</li> <li>2700 Farmington Avenue, Bldg. K, Ste 1, Fa</li> </ol>	rmington, NM 8740 1 505,599 17090 77	10. FIELD AND POOL, OR EXPLORATORY AREA Basin Fruitland Coal
4. LOCATION OF WELL (Footage, Sec., T., R., M., or Survey Desc		11. COUNTY OR PARISH, STATE
1000' FNL - 2320' FEL, Sec. 20, T32		San Juan County, NM
12. CHECK APPROPRIATE BOX(s)	TO INDICATE NATURE OF NOTICE, F	REPORT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE C	OF ACTION
	d true vertical depths for all markers and zones pertinent	casing sizes have changed from
SIGNED  (This space for Federal or State office use)  APPROVED BY Conditions of approval, Many:  Title 18 U.S.C. Section 1001, makes it a crime for any person	TITLE Debra Sittner, As Agent for	Lead DATE MAN 18 (189)
fictitious or fraudulent statements or representations as to a		

\* See Instruction on Reverse Side



## CROSS TIMBERS OPERATING COMPANY DRILLING PROCEDURE

## Federal Gas Com 1 #2 May 4, 1999

Location: 1000' FNL & 2320' FEL, Sec 20, T32N, R12W County: San Juan State: New Mexico

PROJECTED TOTAL DEPTH: 2,250' OBJECTIVE: Fruitland Coal GL ELEV: 5,928'

### 1. MUD PROGRAM:

INTERVAL	0' to 125'	125' to 2,100'	2,100° to TD
HOLE SIZE	12-1/4"	8-3/4"	8-3/4"
MUD TYPE	FW\Native	PW\Polymer	LSND
WEIGHT, ppg	8.6-9.0	8.8-9.1	8.8-9.1
VISCOSITY, scc/qt	28-35	28-32	30-38
WATER LOSS, cc	NC	NC	12-15

Remarks: Use fibrous materials as needed to control seepage and problematic lost circulation. Mix and pump polymer sweeps as needed for hole cleaning. Lowering the water loss and/or adding a hole stabilizing material can control sloughing problems.

### 2. CASING PROGRAM:

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A. Surface Casing: 9-5/8" casing to be set at + 125' in 8.8 ppg mud.

					Coll	Burst		i			
					Rating	Rating	Jt. Str	Drift	SF	SF	SF
Interval	Length	Weight	Grade	Cplg	(psi)	(psi)	(M-lbs)	(in)	Coll	Burst	Tension
0'-125'	125'	32.3#	H-40	STC	1,370	2,300	241	8,845	9.99	20.5	59.7

Makeup torque for 9-5/8" 32.3#, H-40, STC casing: Optimum - 2,540 ft-lbs (Min - 1,910 ft-lbs, Max - 3,180 ft-lbs).

B. Production Casing: 7" casing to be set at ± 2,250' in 9.0 ppg mud.

	·				Coll	Burst					
1				ļ	Rating	Rating	Jt. Str	Drift	SF	SF	SF
Interval	Length	Weight	Grade	Cplg	(psi)	(psi)	(M-lbs)	(in)	Coll	Burst	Tension
0°-TD	2,250	20.0#	1-55	STC	2,270	3,740	234	6.331	2.16	1.66	5.20

Makeup torque for 7", 20.0#, J-55, STC easing: Optimum - 2,340 ft-lbs (Min - 1,760 ft-lbs, Max - 2,930 ft-lbs).

### 3. WELLHEAD:

Casinghead Larkin Fig - 92 (or equivalent) 2,000 psig WP (4,000 psig test), 9-5/8" 8rd pin

on bottom & 11-3/4" API Modified 8rd thread on top.

Tubinghead Larkin Fig 612 (or equivalent) 2,000 psig WP (4,000 psig test), 7" 8rd bottom

thread and 8-5/8" 8rd API Modified top body thread, 6.456" minimum bore.

## 4. **CEMENT PROGRAM:**

A. Surface: 9-5/8", 32.30#, H-40, STC casing at 125".

Lead: 65 sx of Class "B" coment w/ 2% CaCl, & 1/4 pps Colloflake (15.6 ppg, 1.18 cu.fl./sx). This is 100% excess of the calculated annular volume.

B. Production 7", 20.0#, J-55, STC casing at 2,250"

Lead: 185 sx of 35:65 Poz "B" cement w/ 6% Gel, 5 pps Gilsonite, & 1/4 pps

Celloflake (12.9 ppg, 1.85 cu.ft./sx).

Tail: 150 sx of Class "B" cement w/ 5 pps Gilsonite, & 1/4 pps Celloflake (14.8 ppg,

1.33 cu.ft/sx). Use open hole caliper log plus 25% for actual cement volumes.

## 5. DRILLING HAZARDS:

H2S or other Poisonous Gases - Not known to exist in this area.

Abnormal Pressures - No overpressured zones are known to exist in this area.

The anticipated maximum pressure in the Fruitland Coal

formation is 200 psig.

Lost Circulation - The Fruitland Coal formation can be underpressured in the area

and can be controlled with conventional lost circulation

materials added to the mud system while drilling the well. This is not known to be a significant problem to drilling in this area.

### 6. LOGGING PROGRAM:

Open Hole Logging Company to be determined by Geologist.

Array Induction/GR/Cal

From TD to bottom of surface casing.

CNL/LDT/GR/Cal/Pe

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From TD to 900'.

Run Porosity at high resolution speed up to 1,600'.

#### **FORMATION TOPS:** 7.

Formation	Subsea Depth	Well Depth	
Farmington Ss	+4,900	1034	
Lower Kirtland Shale	+4,620*	1,314'	
Fruitland Formation	+4,320	1,614'	
Fruitland Ss	+4,218	1,716° 1,848°	
Upper Coal	+4,086		
Middle Coal	+3,996'	1,938`	
Lower Coal	+3,887'	2,047	
Pictured Cliffs Ss	+3,850'	2,084'	
TD	+3,684'	2,250'	

#### 8. COMPANY PERSONNEL:

Geology	Gary Burch	Ft. Worth, TX	(817) 882-7273 (Office)
1			(817) 572-4431 (Home)
Drilling Supervisor	Boogie Armes	Levelland, TX	(806) 894-8073 (Home)
			(915) 556-7403 (Cellular)
Drilling Manager	Bobby Smith	Midland, TX	(915) 682-8873 (Office)
<u> </u>			(915) 689-8839 (Home)

#### 9. SPECIAL INSTRUCTIONS:

Daily drilling reports should be called in to the Midland office at (915) 682-8873 or A. faxed to (915) 687-0862 by 8:00 a.m. Reports should be based upon the CTOC Daily Drilling Report form, as well as the Casing and Comenting Detail Form provided by CTOC.

#### B. Deviation:

Surface Hole: Maximum of 10 and not more than 10 change per 100'. Production hole: Maximum of 40 and not more than 10 change per 100'.

Note: Maximum distance between surveys is 500'.

Drin out below surface casing after WOC 12 hours. Drill coment and float equipment C. with minimum weight and RPM until drill collars are below bottom of surface casing. Keep location clean and water usage to a minimum.

- D. Check BOP blind rams each trip and pipe rams each day. Strap drill pipe on last bit trip prior to reaching TD.
- E. A trash trailer will be provided on each location. Keep trash picked up and the location as clean as possible. All drilling line, oil filters, etc. should be hauled away at the Drilling Contractor's expense. At the conclusion of the drilling operations, the contents of the trash trailer will be disposed of into a commercial sanitary landfill.
- F. The reserve pits, if used, will be lined with a 12 mil plastic liner in order to contain the drill cuttings and drilling fluids. At the conclusion of the drilling operations, if necessary, the free water in the reserve pits can be hauled away to a commercial disposal well and then the contents of the reserve pit will be buried in place and the pit covered with the original topsoil as much as possible.

B.L. Smith <sup>†</sup> 5/4/99

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