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-078096

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

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

8. Well Name and No.
Mudge "AC" #1

2. Name of Operator
Amoco Production Company ATTN: J.L. HAMPTON

9. API Well No.
30-045-23951

3. Address and Telephone No.
P. O. Box 800 Denver, Colorado 80201

10. Field and Pool, or Exploratory Area
Basin Dakota

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
890' FSL, 1015' FWL "M" Sec.9, T31N,R11W

11. County or Parish, State
San Juan, New Mexido

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 _____	☐ 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.)*

Due to rare and endangered plants on the subject location, the procedure for the Recompletion on the subject well from the Dakota Formation to the Fruitland Coal Formation has been changed from a sidetracking to the attached:

(Previously submitted sundry dated 9/27/91 - approved 10/9/91)

Please contact Cindy Burton (303)830-5119 if you have any questions pertaining to this well.

RECEIVED
NOV 22 1991
OIL CON. DIV
DIST. 3

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

Signed J.L. Hampton Title Sr. Staff Admin. Supervisor Date 11/13/91

(This space for Federal or State office use)

Approved by _____ Title _____ Date NOV 21 1991

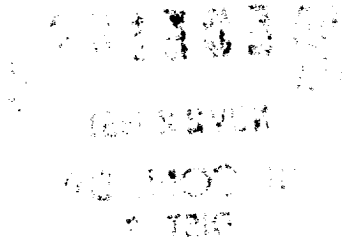
Conditions of approval, if any:

APPROVED
AS AMENDED
AREA MANAGER
FARMINGTON RESOURCE AREA

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.

*See Instruction on Reverse Side

NMOCD



PROCEDURE
MUDGE /C/ 1 (a.k.a. Mudge /A/ 1)

1st Revision 10/30/91

1. MIRUSU
2. Kill well.
3. Clean out hole to PBTD. TOH.
4. Run a GR/CBL from PBTD to surface. Determine TOC for both 4 1/2" liner and 7" casing. Make additional passes at higher pressures if the TOC is unclear.
5. If TOC for the 4 1/2" liner is not above the Mesaverde, it will be necessary to conduct a block squeeze across the MV to ensure isolation. Contact office for squeeze procedure.
6. Set a continuous cement plug from PBTD to 3000'. Est. volume is 73 bbl.
7. If TOC for the 7" casing is not above the Fruitland Coal, it will be necessary to conduct a cement squeeze to bring cement above the coal and also to the surface. Contact office for squeeze procedure.
8. Remove wellhead and replace with a 4000 psi frac head.
9. Pressure test casing string and frac head to 3500 psi.
10. Swab fluid level down to 1500' from surface.
11. Run a cased hole neutron density / GR log from PBTD (3000') to 2350'.
12. TIH with a 4 1/2" casing gun and perforate the Fruitland Coal over the following intervals with 8 JSPF and 90 deg. phasing. Entry holes should be .5" in diameter or greater.

PERFORATE

2504' - 08'	2562' - 68'	2598' - 2605'
2668' - 74'	2678' - 81'	2719' - 23'
2725' - 40'	2744' - 48'	

Please check these depths with the engineer and the results of step 11.

Depths are correlated from Schlumberger's Thermal Neutron Decay Time/CCL log dated June 10, 1980.

13. Install frac valve and actuator.
14. Rig up frac company, and frac well down casing at 98 BPM according to the attached schedule. Max treating pressure is 3500 psi.
15. Leave well shut in overnight.
16. TIH with mule shoe, seating nipple, and 2 3/8" tubing. Clean out to PBTD, and slowly flow back load water from frac attempting to avoid sand production.
17. Replace frac head and valve with original wellhead.
18. Set bottom of tubing at 2750'.
19. Turn well over to production department.

10/30/91

FRACTURE STIMULATION PROCEDURE

Well Name : Mudge /C/ 1 Upper Stage Frac
Formation : Fruitland Coal
Frac down : 7" casing/liner.
Frac with : 40/70 & 20/40 mesh. Use Brady.
Packer set at : -

PERFORATIONS :

	INTERVALS top		bottom	FEET PERFED
top per	2504	-	2508	4
	2562	-	2568	6
	2598	-	2605	7
	2668	-	2674	6
	2678	-	2681	3
	2719	-	2723	4
	2725	-	2740	15
	2744	-	2748	4
		-		0
		-		0
		-		0
		-		0
		-		0
		-		0
		-		0
		-		0
		-		0
	total feet of perforations			49

STAGE		FLUID TYPE (water)	FLUID VOLUME (gal.)	PROPPANT TYPE (mesh)	PROPPANT CONC. (ppg)	PROPPANT VOLUME (lb)	CUM. PROPPANT (lb)	BOTTOM HOLE RATE (bpm)	STAGE TIME (min)
(pad)	1	slick	142,900	-	-	-	0	98	34.7
	2	slick	19,600	40/70	1	19,600	19,600	98	5.0
	3	slick	29,400	20/40	2	58,800	78,400	98	7.8
	4	slick	9,800	20/40	3	29,400	107,800	98	2.7
	5	slick	7,350	20/40	4	29,400	137,200	98	2.1
	6	slick	5,880	20/40	5	29,400	166,600	98	1.8
	7	slick	4,900	20/40	6	29,400	196,000	98	1.5
Total			220,000	gallons		196,000	lbs		55.6

NOTE: All slick water used in this procedure should contain 0.75 gal / 1000 gal of Western FR-28 friction reducer or equivalent. No other additives are required.

Casing capacity = 0.0394 bbl/ft.
Liner capacity = bbl/ft. If no liner exists, leave blank.
Liner top = ft. If no liner exists, leave blank.
Casing vol. to top perf = 98.7 bbl.
Flush w/ 94 barrels of water

Mudge /C/ 1 Upper Stage Frac

Pertinent Data:

At 98 BPM, travel time from the wellhead to the top perf is 1 min. and 0 sec.
Maximum treating pressure 3500 psi.
Have 16 400 bbl tanks of water
Tanks should be clean prior to filling. Water should be clean and filtered.
Sand bins should be cleaned prior to loading of sand.

Sand sieve analysis:	20/40 mesh	40/70 mesh
less than 1% less than	50 mesh	100 mesh
less than 1% greater tha	16 mesh	30 mesh
greater than 90% between	20/40 mesh	40/70 mesh