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In Lieu Form 31 (John 19	60 DEFARIME	TD STATES  NT OF INTERIOR  AND MANAGEMENT	FORM APPROVED Budget Buyeau No. 1004-0135 Expires: March 31, 1993
		5. Lease Designation and Serial No. SF-078764	
		t for such proposals 93 FEB 22 PH 1:	If Indian, Allottee or Tribe Name
	SUBMIT IN T	RIPLICATE C70 Filming Control	7. If Unit or CA, Agreement Designation ROSA UNIT
1.	Type of Well  ☐ Oil Well  ☐ Gas Well  ☐	] Other	8. Well Name and No. ROSA UNIT #321
2.	Name of Operator WILLIAMS PRODUCTION COMPANY		9. API Well No. 30-039-24962
3.	Address and Telephone No. PO BOX 3102 MS 37-2, TULSA, OK 74101	(918) 561-6254	10. Field and Pool, or Exploratory Area BASIN FRUITLAND COAL
4.	Location of Well (Footage, Sec., T., R., M., o 1205' FNL & 1765' FEL, NW/4 NE/4, SEC 2	or Survey Description) 20 T31N R5W	11. County or Parish, State RIO ARRIBA, NM
	CHECK APPROPRIAT	TE BOX(s) TO INDICATE NATURE OF NOTICE, RE	PORT, OR OTHER DATA
	TYPE OF SUBMISSION	ТҮРЕ	OF ACTION
	■ Notice of Intent  □ Subsequent Report  □ Final Abandonment	☐ Abandonment ☐ Recompletion ☐ Plugging Back ☐ Casing Repair ☐ Altering Casing ☐ Other Cavitation	☐ 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.)
13.	Describe Proposed or Completed Operations well is directionally drilled, give subsurface	(Clearly state all pertinent details, and give pertinent dai locations and measured and true vertical depths for all r	es, including estimated date of starting any proposed work. narkers and zones pertinent to this work.)*
Williams Production Company plans to cavitate this well as per the attached procedure. Estimated start date 4/1/1999.			

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

Signed SUSAN GRIGUHN

(This space for Federal or State office use)

Approved by S Duane W. Spencer

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.

generic\_cav\_liner.cloc

## WILLIAMS PRODUCTION COMPANY CAVITATION PROGNOSIS

Purpose; To pull the liner and cavitate the Fruitland Coal zone.

- Prepare location, reserve pit, bank, and test anchors prior to rig move.
   Notify BLM 24 hours to moving in.
   Spot all tanks. Spot air package. Use produced water for workover.
- 2. MIRUSU. Nipple up BOP's, 2 blooie lines, working valves and 2" relief line. Test BOP's.
- 3. TOOH w/ tubing and LD.
- 4. TIH with T.I.W. setting tool on 3-1/2" drill pipe. Tag liner top. Thread setting tool into liner langer and pull straight out to release hanger and liner. TOH with liner and drill pipe.
- 5. Re use liner if not damaged. Recondition JGS liner hanger with left hand threads and re-use.
- 6. If liner recovery with setting tool was unsuccessful, mill it out as follows.

  Pickup rotary shoe, bumper sub, jars, 6-1/4" mill and 4-3/4" drill collars on 3-1/2" drill pipe and TIH.

  Mill the top hold down slips off the JGS, Steel Sleeve liner hanger. TOOH. Pick up spear and the fishing tool assembly and TIH. Spear into the liner top and jar liner loose.
- 7. TOOH w/ liner and LD. Repair liner if necessary.
- 8. PU correct size bit on 3-1/2" DP and TiH. Clean out to TD. TOOH.
- 9. PU 7" X 9-1/2" Underreamer and underream from casing shoe to TD. TOOH.
- 10. Hook up air package.
- 11. TIH w/ bit on 3-1/2" DP and circulate out fill. Run 5 10 bbl sweeps using 1 GPB of soap if necessary.
- 12. PU bit drill pipe inside casing. Pressure up hole to max pressure then surge. Do this repeatedly. Five to ten times. Also alternate with natural surges periodically.
- 13. Repeat 2-3 weeks or until gas production no longer increases.

NOTE: Accurate choke guages are required after each cycle. Track buildup pressure also.

- 14. TOH w/ 6-1/4" bit on 3-1/2" DP.
- 15. PU original 5-1/2" liner on DP. Run in with reconditioned JGS liner hanger with left hand threads and L A set shoe on bottom of liner. Rotate down if necessary. Land liner @ TD with 100' overlap in casing. TOOH w/ DP and LD.
- 16. Perforate liner. Depths and number of holes will be determined by engineering based off open hole

and mud logs. Use Blue Jets large diameter "Big Hole" shots (0.71" diameter) or equivalent.

- 17. PU 2-3/8", 4.7#, J-55, 8rd, EUE tbg or 2-7/8" to be determined by cavitation results and RIH. Land tubing near bottom perf. Exact depth to be determined. Leave sufficient rat hole.
- 18. ND BOP and NU wellhead. Shut well in for buildup.
- 19. Cleanup location and release rig.

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